

Rock Products

DEVOTED TO THE PRODUCTION
OF ROCK AND ITS PRODUCTS

Vol. V. No. 14.

LOUISVILLE, KY., JUNE 22, 1906.

MANUFACTURED PRODUCTS
AND CONCRETE EDITION

SAND LIME BRICK MACHINERY NATIONAL SYSTEM

FINLAY SAND DRYER

CLAY WORKING MACHINERY

LIME HYDRATING PLANTS

NATIONAL BRICK MACHINERY CO., 817 Chamber of Commerce, Chicago

DRY UP YOUR TROUBLES

WITH OUR

Drying Machinery and Presses
THE BILES DRIER COMPANY

Both Long Distance Telephones

LOUISVILLE, KENTUCKY

Ottawa Silica Co.'s Washed White Flint Sand

Is used for sawing stone in more than a dozen states. Cuts more and lasts longer than any other sand on the market. Unexcelled for Roofing, Facing Cement Blocks, White Plaster, etc. Freight rates and prices on application.

OTTAWA SILICA CO., - Ottawa, Ill

CAPACITY, 60,000 PER DAY.

UNION MINING COMPANY,

ESTABLISHED, 1841.

MANUFACTURERS OF THE "MOUNT SAVAGE" FIRE BRICK

DEVOTE A SPECIAL DEPARTMENT

to the Manufacture of Brick particularly adapted both physically and chemically to Lime Kiln and Cement Kiln Construction.

Large Stock Carried. Prompt Shipments Made. Write for Quotations on Standard and Special Shapes, to

UNION MINING COMPANY, Mount Savage, Md.

"Howard Cement"

IT IS NON-STAINING.
IT IS WHITE.
IT IS NON-FREEZING.

HOWARD CEMENT PLASTER the most perfect-wall plaster made

Favor us with your inquiries. Howard Hydraulic Cement Co. CEMENT, GEORGIA.



Phoenix Portland Cement UNEXCELLED FOR ALL USES.

Manufactured by
PHOENIX CEMENT CO.

NAZARETH, PA.

Sole Selling Agent WM. G. HARTRANFT CEMENT CO.,
Real Estate Trust Building PHILADELPHIA, PENNSYLVANIA

"RELIANCE" BELT ABSOLUTELY BEST

FOR GRIFFEN MILLS
FOR TUBE MILLS
FOR BALL MILLS

Chicago Belting Company
MAKERS

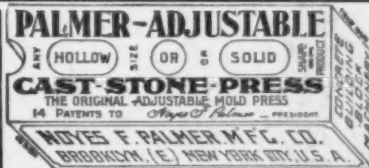
67-69 South Canal Street,

SEND US YOUR SPECIFICATIONS.

CHICAGO, IL. L.

For Rent
or For Sale

Apply, 431 W. Main St.,
LOUISVILLE, KY.



DEXTER Portland Cement

THE NEW STANDARD

Sole Agents: SAMUEL H. FRENCH & CO. Philadelphia



MARQUETTE PORTLAND CEMENT

Gives Absolute Satisfaction for All Kinds of Concrete Work.

MARQUETTE CEMENT MANUFACTURING CO.,

MILLS: LA SALLE, ILL.

SALES DEPARTMENT: MARQUETTE BLDG., CHICAGO.

Buckeye Portland Cement Co.

ESTABLISHED 1888.

Manufacturers of the celebrated
"Buckeye" brand of

Portland Cement

"Buckeye" has stood the wear and tear in many important places for the past fifteen years and under the new process of manufacture is now better than ever. :: :: :: ::

WE INVITE YOUR
CORRESPONDENCE.

Bellefontaine, Ohio.

HYDRATED PORTLAND LIME



IS IDEAL FOR

Waterproofing Concrete Blocks

SAVES MONEY. TRY IT.

—FOR INFORMATION AND PRICES, WRITE—

CHICKAMAUGA CEMENT CO.,

Sole Manufacturers.

CHATTANOOGA, TENNESSEE



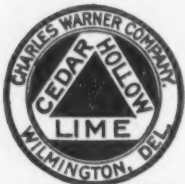
"LIMOID"

SEWER PIPE

FIRE BRICK

PLASTER, ETC.

Charles Warner Company

LAND TITLE BUILDING,
PHILADELPHIA.WILMINGTON,
DELAWARE.

A
STANDARD
PORTLAND



FOR
UNIVERSAL
USE

CEMENT DEPARTMENT.

ILLINOIS STEEL COMPANY,

The Rookery,

CHICAGO, ILL.

Chicago Portland Cement Co.



MANUFACTURER OF...

"CHICAGO AA" PORTLAND CEMENT.

We make one brand only.

The best that can be made.



ONE GRADE—ONE BRAND.

The Recognized Standard American Brand.

General Offices: EASTON, PA.

SALES OFFICES:

541 Wood, PITTSBURGH.

Builders Exchange, BALTIMORE.

Marquette Building, CHICAGO.

Builders Exchange, BUFFALO.

Board of Trade Bldg., BOSTON.

Park Row Bldg., NEW YORK.

Harrison Building, PHILADELPHIA.



Manufacturers: Sales Office, Holland Building. St. Louis

The Best Portland Cement Is

"LEHIGH"

MANUFACTURED BY

Lehigh Portland Cement Co.

ALLENTOWN, PA.



Write for Catalogue.

Capacity, 7,000,000 Yearly.

Tell 'em you saw it in ROCK PRODUCTS.

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Rock Products

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Vol. V. No. 14.

LOUISVILLE, KY., JUNE 22, 1906.

MANUFACTURED PRODUCTS
AND CONCRETE EDITION

THE MANDT TWO-PIECE WALL.

Successful Features of Actual Guaranteed
Dry Concrete Wall Construction.

By M. G. MANDT.

The Mandt-Powell Concrete Machinery and Foundry Co., Stoughton, Wis., who have developed a splendid system of two piece wall construction which insures a perfectly dry inside wall for interior plastering direct against the block, challenge a comparison of the advantageous features of the Mandt concrete building block with that of any other block made claiming that ventilation is the secret of the success of the business and showing that their wall has a triple ventilation or continuous air space running vertically throughout their system of construction. The blocks are made in triangular shape, the point of triangle fitting into the angle formed by two others which in bonding the wall makes the superimposed block bond three immediately unlying it and without contact between the outer and inner sets of blocks.

Speaking of the progress of their operations, they say: "Our business is increasing in such great volumes, we hold there must be some cause for it and upon looking into the concrete block business as it is to-day, the source of our success can be easily found.

"We have received during the last season, hundreds of letters from people using the one piece system, which they found to be very impractical as well as giving very poor results. Houses have been built and damp walls ensued, the result was that the man could do no further business and either had to get in a machine that would make blocks of satisfactory quality or quit the business. Upon looking into the one piece system you will easily find where the dampness results from. It is because there is a direct connection with the outer and inner surface walls. In cold weather the warm atmosphere of the inner surface of the block comes in contact with the outer atmosphere and a dampness is the result. There are lots of other reasons, such as the one piece block being heavy to lay, costly to manufacture, etc., while the Mandt concrete building block, on the other hand, is found to be faster to manufacture and lighter to handle. One man can handle two blocks instead of the rule two men to one block. There are a great number of other reasons also; but there is one point that we, the two piece block men, feel that we have overcome several serious disadvantages found in the face system commonly resorted to in one piece blocks, namely that of putting in the fine facing of cement and sand onto a coarse bonding of one piece block. At recent conventions it was brought out by experts that this system was a failure because of the cracking apart of the two surfaces, which will invariably result. We hold that a face wall has a fine appearance, but we

further hold that the facing should not be put onto the block, as the block should be made rightly and safely and should be made of the same mixture throughout. The system we resort to of facing a wall is very simple and absolutely safe. Instead of trying to put the facing onto the block, we make the entire front block of a little better mixture than is commonly used. This will bring out a block with an appearance, if rubbed or chemicals applied, as that of other polished stone. For the inside block, gravel and coarser material is used, resulting in a block equal in strength to any, though not as nice appearing, yet a great deal cheaper.

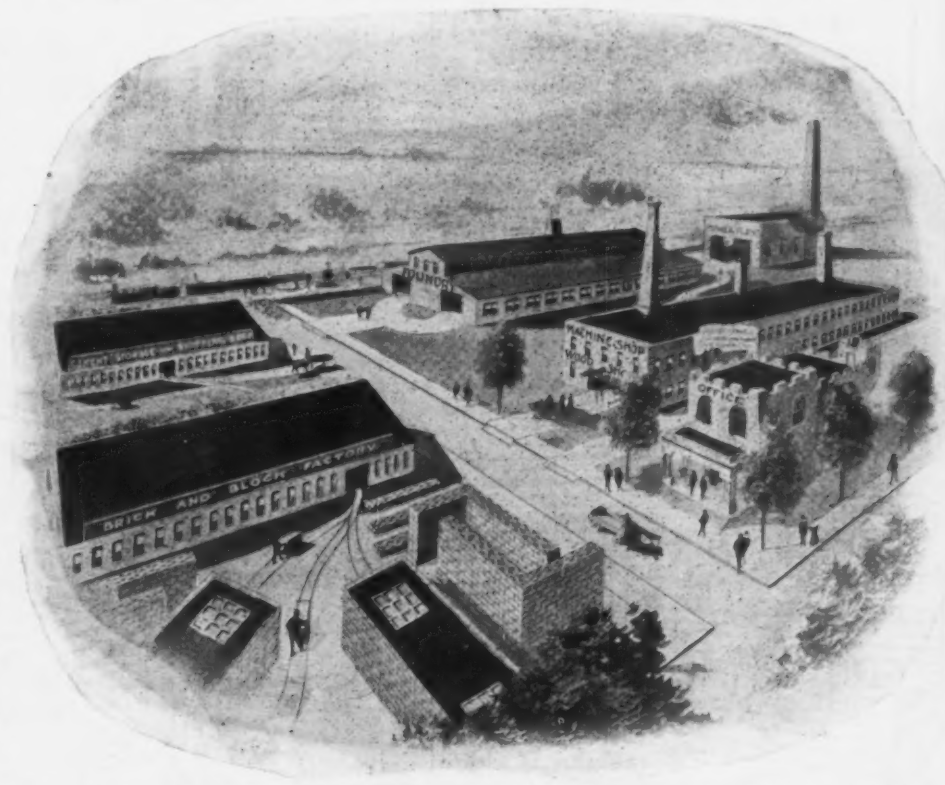
"The above feature is by no means the important one, as our ventilation stands out strongly as the best. Let us tell our exact ventilation and then same can be compared with the claims of the rest of the blocks. The Mandt concrete building block when laid up into the wall will have three separate air passages. The central air passage which entirely disconnects the outer block with the inner one will run continuously from the bottom to the top and horizontally around the entire wall and because of the fact that this air passage does away with any connection between the outer and inner wall and being that the air passages are horizontal as well as vertical, it shows that we can do what no

other concrete block manufacturer can do, in that we can plaster direct over the wall onto the block with furring the lathing, we wish it to be known very strictly that we furnish with our machine, that is, to every customer, a signed guarantee to cover our ventilation. Think of the advantage that a man using our machinery will have in that he can in turn guarantee his customers absolutely dry walls. We are certain that we are the only company that has enough faith in its system to do this and it speaks very strongly for the Mandt.

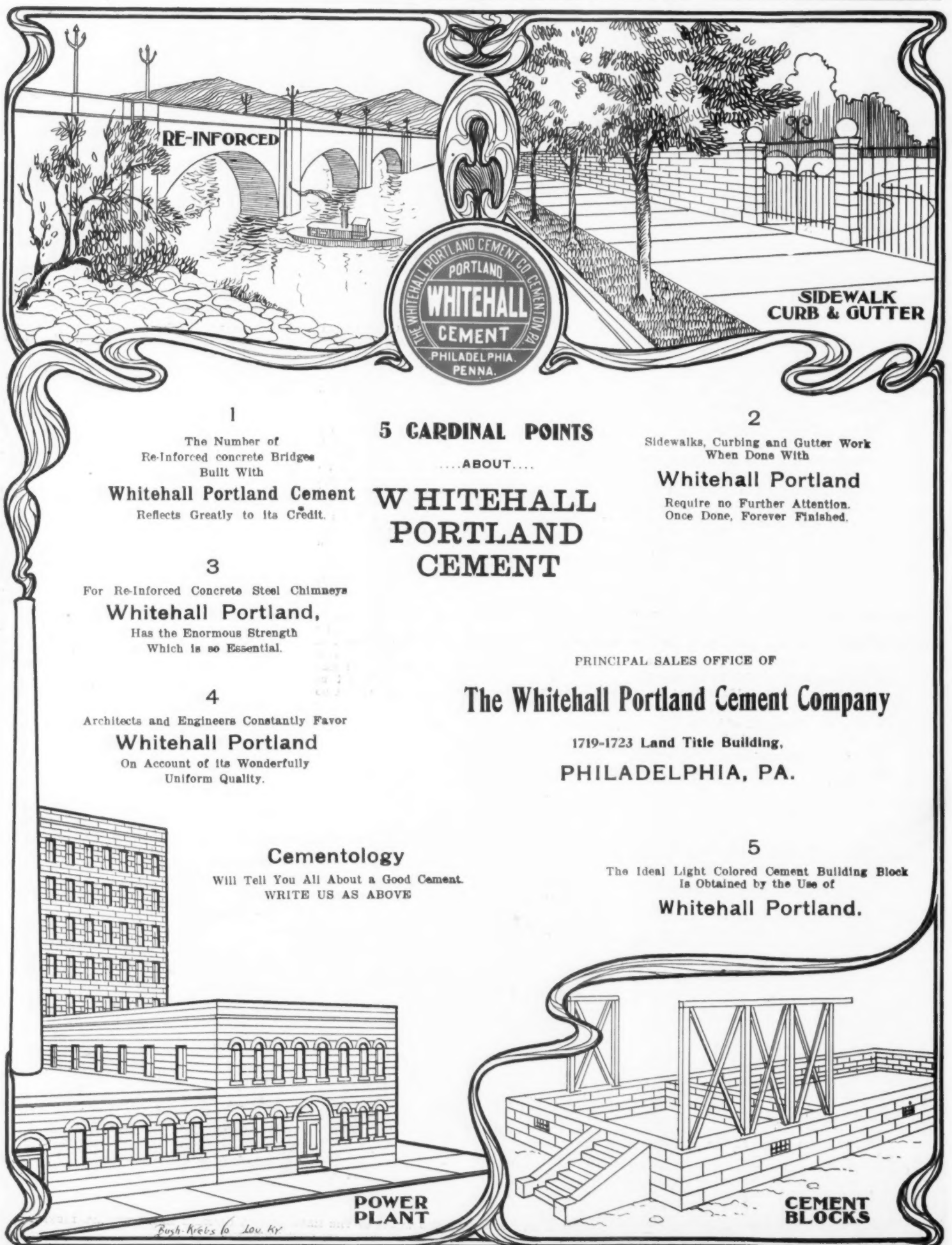
"There are a great many other features that we might bring out, such as our bondage. We have a natural bondage of one block binding three, also a saving of manufacturing constructions of these blocks as well as our large variety of ornamental blocks, which will also show up very strong in the walls and help push the business in the artistic line. There are a large number of points that could be brought out but we want to say a few words about the Mandt concrete block machinery.

"We have found from experience that where a large number of blocks is required that one machine is not enough to make the required amount and is very impractical, also for the

(Continued on Page 37.)



GENERAL VIEW OF OFFICES AND WORKS OF THE MANDT-POWELL CONCRETE MACHINERY AND FOUNDRY COMPANY, STOUGHTON, WIS.



RE-INFORCED

WHITEHALL PORTLAND CEMENT CO. CEMENTON PA.
WHITEHALL
CEMENT
 PHILADELPHIA, PENNA.

SIDEWALK CURB & GUTTER

1
 The Number of
 Re-Inforced concrete Bridges
 Built With
Whitehall Portland Cement
 Reflects Greatly to its Credit.

5 CARDINAL POINTS
ABOUT....

2
 Sidewalks, Curbing and Gutter Work
 When Done With
Whitehall Portland
 Require no Further Attention.
 Once Done, Forever Finished.

3
 For Re-Inforced Concrete Steel Chimneys
Whitehall Portland,
 Has the Enormous Strength
 Which is so Essential.

4
 Architects and Engineers Constantly Favor
Whitehall Portland
 On Account of its Wonderfully
 Uniform Quality.

PRINCIPAL SALES OFFICE OF
The Whitehall Portland Cement Company
 1719-1723 Land Title Building,
PHILADELPHIA, PA.

Cementology
 Will Tell You All About a Good Cement.
 WRITE US AS ABOVE

5
 The Ideal Light Colored Cement Building Block
 Is Obtained by the Use of
Whitehall Portland.

POWER PLANT

CEMENT BLOCKS

Push-Krets to Lou. Ky.

Tell 'em you saw it in ROCK PRODUCTS.

"KOSMOS"

Kosmos Portland Cement is the product of a model plant, using high grade raw materials and under the direction of a staff of experienced cement engineers.
It is guaranteed the equal of any American Brand of Portland Cement and will be found to run uniform



in color, strength and fineness. It is suitable for any class of work and is especially recommended where the requirements are exacting.

Manufactured by the

KOSMOS PORTLAND CEMENT CO., Inc.,

BUSINESS OFFICE: 53-54 Todd Building, Louisville, Ky. WORKS: Kosmosdale, Jefferson Co., Ky.

Louisville Hydraulic Cement.

The best work is the kind that accomplishes all the objects sought at least expense.

Mr. Chas. Hermany, Past President Am. Soc. C. E., says in a letter dated July 4, 1901:

"For many classes of public works Louisville natural cement is as good and reliable as Portland cement, and at a greatly reduced cost in the construction of concrete masonry."

Over 36,000,000 barrels that have gone into actual use attest its merit.

Special slow-setting cement for brick and stone masonry when desired.

Illustrated pamphlets mailed on application.

Western Cement Co.

281 W. Main Street, Louisville, Ky.

OWL CEMENT

is not the only Portland Cement, but one of the best manufactured. Pamphlet sent on application.

GERMAN-AMERICAN PORTLAND CEMENT WORKS,

E. L. COX, General Sales Agent,
1511 Marquette Building, Chicago, Illinois.

Members Illinois Lumber Dealers Association.

WE SELL TO DEALERS ONLY.

BANNER CEMENT CO., MAKERS OF THE FAMOUS BANNER BRAND OF LOUISVILLE CEMENT.

Guaranteed that 90 per cent. will pass a ten thousand Mesh Sieve.

WE SELL TO DEALERS ONLY.

GENERAL OFFICE: MASONIC TEMPLE, CHICAGO, ILL.

Newaygo Portland Cement Co.

Sales Office: Michigan Trust Building,

GRAND RAPIDS, MICH.

Write us for prices.

Send us your orders.

Tell 'em you saw it in ROCK PRODUCTS.

DURABILITY and PERMANENCE

are the strong points
of

Northampton Portland Cement

A cement that meets the most exacting requirements of the U. S. Government as well as Municipalities, and grows steadily in strength is the cement for the engineer and architect to depend upon. Our record is our guarantee.

Northampton Portland Cement Co.

26 Broadway,

NEW YORK.

Works at Stockertown, Pa.

Improved Utica Hydraulic Cement

The finest ground and highest grade Natural Cement manufactured in the U. S. Every car tested by Robt. W. Hunt & Co., and their test furnished on every car shipped.

MEACHAM & WRIGHT CO., Sole Agents, Chicago.



"LILY" LIME 99.77 PURE

ROGERS WHITE LIME CO.,

ROGERS, ARKANSAS

CHARLES W. GOETZ LIME & CEMENT CO.

MANUFACTURERS OF AND DEALERS IN

**Glenwood Lime, Banner
Brand Louisville Cement,
Portland Cements and
Building Materials.**

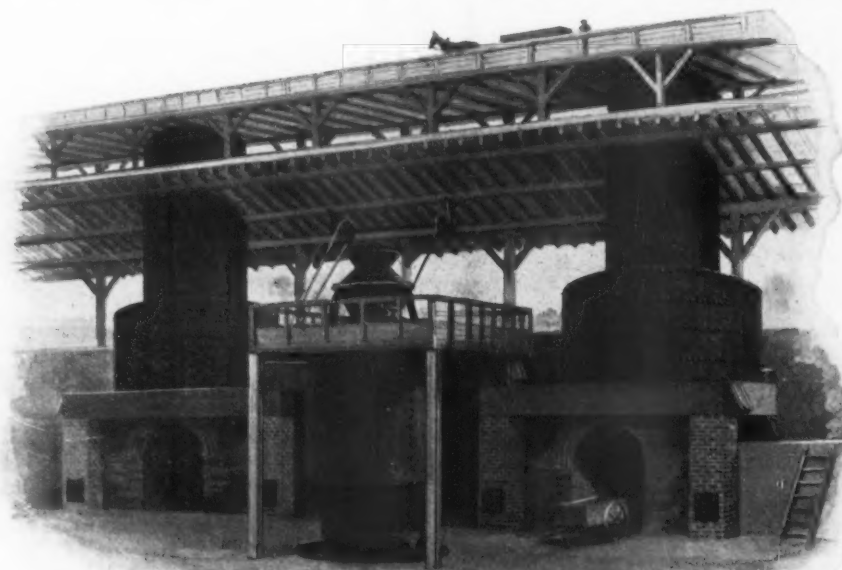
St. Louis, Mo.

To Procure or to Sell Quick—

Try a line or two in the Wanted and
For Sale Department.

Gas Producer Plant of the New England Lime Co., New Milford, Connecticut.

**PRODUCER GAS
Makes the Best Lime
It increases the
Capacity of a Plant
and Reduces the
Fuel Bill**



**The Total Cost of
This Installation
Will be Paid for by
the Saving Effected
During the First
Year of Operation**

We are now equipping a second plant for above company at Canaan, Ct.

MORGAN CONSTRUCTION CO., 40 Exchange Place, New York, N. Y.

Pittsburg Representative, Geo. A. Harwood Company, 2011 Farmers Bank Building, Pittsburg, Pa. **Works at Worcester, Mass.**

Tell 'em you saw it in ROCK PRODUCTS.

The Ohio Lime Company,

MANUFACTURERS OF AND WHOLESALE DEALERS IN

WORKS AT

Fostoria, Ohio.
Gibsonburg, Ohio.
Sugar Ridge, Ohio.
Tiffin, Ohio.

Ohio White Finishing Lime.
Ground Lime, Lump Lime,
Fertilizer, Hydrate Lime,
Cement, Plaster,
Hair, &c.

Capacity
3500 Barrels
Per Day.

OFFICE:

109-210-211 CHAMBER OF COMMERCE BUILDING.

TOLEDO, OHIO.

FOWLER & PAY,

Brown Hydraulic Lime, Austin Hydraulic
Cement, Jasper Wall Plaster, Brick, Stone.

CEMENT WORKS: Austin, Minn.
PLASTER MILL: Ft. Dodge, Iowa.
WAREHOUSE: Minnesota Transfer.

MANKATO, MINN.



ASH GROVE
WHITE LIME ASSOCIATION
MANUFACTURERS OF
High Grade
White Lime.
KANSAS CITY, MISSOURI.

WESTERN LIME CO.

HUNTINGTON, INDIANA

MANUFACTURERS OF

LUMP LIME

ALSO, DIAMOND BRAND SUPERIOR WHITE FINISH

A HYDRATED LIME

AND A GROUND AND FERTILIZER LIME

Capacity 4,000 barrels or 10,000 bushels per day. Capacity of
Hydrated Lime, 120 tons per day. Our LUMP LIME as well as our
HYDRATED LIME is the very best obtainable for all purposes for
which a good lime is needed in erecting buildings. Our HY-
DRATED LIME is absolutely the best finishing lime on the market.

The Strongest White Lime

ON THE MARKET

Uniform Quality

Finest Grain

The American Clay Machinery Co.
WILLOUGHBY, OHIO

May 16, 1906.

The Mitchell Lime Co.,
Mitchell, Ind.

Dear Sirs:-

Replying further to your favor of the 8th inst request-
ing us to advise you the result of practical test of your
lime in the manufacture of sand-lime brick. We are
pleased to advise you that the lime hydrated easily and
the brick made from it were first-class in every respect.

We have forwarded some samples of it to Mr. Elkus
of the Indianapolis Composite Brick Co. and he can prob-
ably advise you further.

Very truly yours,

The American Clay Machinery Co.
by W. J. Burke.

MITCHELL LIME COMPANY

MITCHELL, INDIANA

LIME

Lump-Barreled-Hydrated.

Lowest Prices

Best Quality

Strongest in Ohio

We are not connected with any TRUST or COMBINATION.

WRITE US—PHONE US.

The Scioto Lime and Stone Company, Delaware, Ohio

Tell 'em you saw it in ROCK PRODUCTS.

DOES NOT DETERIORATE WITH AGE.



WILL NOT SLACK. ALWAYS READY FOR USE.

Excelsior Hydrated Lime

A PRODUCT OF MERIT.

The best prepared Lime in the market. Is superior to hot Lime for all purposes. Will not deteriorate. Absolutely pure and free from foreign ingredients. Successfully used for more than two years by the largest users of Hydrate in the country.

SEND FOR PRICES.

MADE ONLY BY

The Cleveland Builders Supply Co. Cleveland, O.

Try us on your Portland Cement requirements

**Big
B**



Lime.

BIG B LIME

ITS HISTORY IS A STORY OF SUCCESS.

The Building Trades' Barometer. The Iron and Steel industry promises increased activity. It is predicted that a new tonnage record in that business will be established.

This means a large demand for LIME, and transportation facilities taxed. Isn't it wise to arrange early for your supply of LIME?

BIG B's quality is unsurpassed. That means satisfied and contented contractors for you. Our quick shipping facilities mean fresh lime on short notice.

A POSTAL CARD WILL BRING OUR 1905 MEMORANDUM BOOK.

THE NORRIS AND CHRISTIAN STONE AND LIME CO.
MARION, OHIO.

Farnam "Cheshire" Lime Co.

OF CHESHIRE, MASS.
MANUFACTURERS OF THE

Celebrated "Cheshire" Finishing Lime.

Well known throughout New York and the Eastern States as the finest finishing lime manufactured. The special feature of this lime is its quick and even slacking, thus preventing any cracking or checking when put on the wall. It is the best lime used in the country today for all

HIGH GRADE FINISHING WORK

Selling Department, 39 Cortlandt St., N. Y., C. J. CURTIN, Pres't.

JOIN THE INFORMATION BUREAU DEPARTMENT. All it costs is to be a regular subscriber to the paper. The object of this department is to assist our subscribers in every possible way.

ROCHESTER LIME CO.

209 Main St., West, Rochester, N. Y.

MASONS' SUPPLY DEPOT.

Manufacturers of, and Wholesale Dealers in

Snow Flake Lime, Cement Building Blocks, Alpha Portland Cement, Hoffman Rosendale Cement, Cummings Akron Cement, Kings Windsor Wall Plaster, Kings Plaster Paris, Fire Brick, Fire Clay, Dynamite, Caps, Exploders, etc.

Tell 'em you saw it in ROCK PRODUCTS.

Successful Lime Hydration

There is ten times the demand for hydrated lime now that there was six months ago. There is a reason for it; masons and contractors are just beginning to realize the many advantages the hydrated product has over the lump lime, and the supply dealers are pushing this up-to-date lime, because they see a profit in it. The manufacturers of hydrate, without exception, are doing a large and profitable business.

With our experience in this business, we are in position to install a hydrating plant for you that will be a success from the start. You are taking no chances in the matter at all. We will design, furnish and install the machinery constituting a complete plant, adapting it to your local conditions, either contract basis, or cost plus a fixed sum. In either case you get the benefit of our wide experience.

The designing and building of hydrating plants is our only business; we devote our entire time and attention to this one thing, and we make it a success. Why not investigate this new and profitable branch of the lime industry? We shall be pleased to furnish you with any necessary information.

The Kritzer Company

Western Avenue and 17th Street
CHICAGO, ILL.

Tell 'em you saw it in ROCK PRODUCTS.

POST PIPE CO., TEXARKANA.

THE RESULT of the burning of our first kiln of SEWER PIPE

was very satisfactory. While the color of the pipe is light, somewhat on the order of stoneware, the material is Sound, Well Glazed, Thoroughly Vitrified, and Exceptionally Strong, and we have no hesitation in saying that we will

GUARANTEE

its quality to be equal or superior to any
Sewer Pipe now made in the South.

We make this statement advisedly, and we mean that any purchaser of our Sewer Pipe who can demonstrate to any competent, unprejudiced authority that in any point material to its use,

in Correctness of Shape, in Vitrification,
in Glazing, in Strength,
in Freedom from Blisters and Cracks

the SEWER PIPE made by this company at TEXARKANA is not as good as

The Best Pipe Made in the South

HE NEED NOT PAY FOR IT.

The results shown demonstrate conclusively the superiority of the clay deposits owned by this company, and the peculiar fitness of the clay for the manufacture of

Vitrified Clay Products

DEALERS will be pleased with our pipe because its extraordinary strength prevents excessive breakage. ENGINEERS and other CITY AUTHORITIES will like it because of its uniformly correct shape, its freedom from cracks and blisters, and its perfect glazing.

All sizes above 6 inches are made in 2½ foot lengths with improved deep sockets.

We invite correspondence.

POST PIPE CO. Office and Factory:
Texarkana, U. S. A.

Tell 'em you saw it in ROCK PRODUCTS.

The Real Question About Concrete Mixers

When Ordering a Mixer

for making concrete, mortar, pulp, briquettes, block fuel or any other requirement, the important question is—will it produce a perfect product?

Failing in this, any other features of claimed excellence are unworthy of consideration.

It stands to reason that concrete machines having for mixing devices paddles, scoops, shelves or blades attached to the inside of the periphery of the mixing receptacle merely pocket as much as they will hold of some ingredient as it enters the chamber and carry it around, cutting through but not mixing with the main mass of material at the bottom of the receptacle, and this ingredient, carried by these devices, is not removed, or mixed, until the batch is discharged.

The inevitable result is an imperfectly mixed, inferior quality concrete.

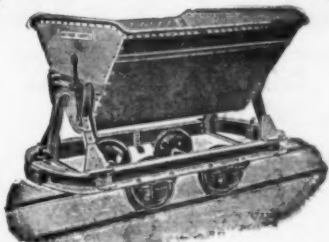
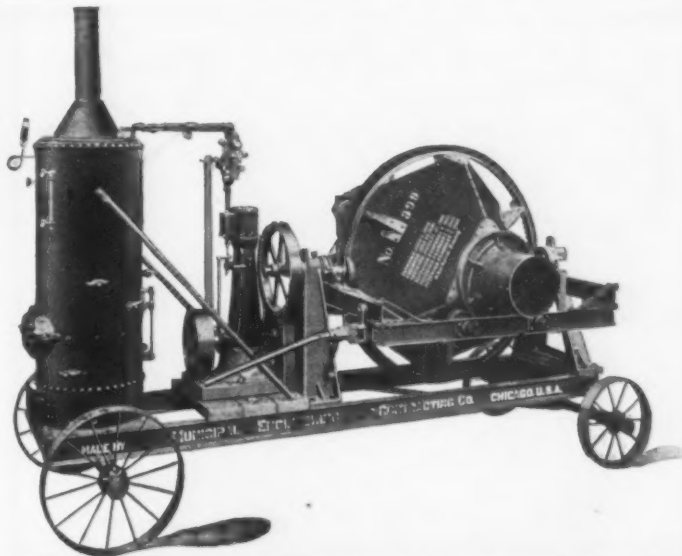
In trough mixers provided with spirals, the materials are merely pushed along in layers, and any distribution of cement that may be done is accomplished by the uncertain action of water.

THE CHICAGO IMPROVED CUBE CONCRETE MIXER

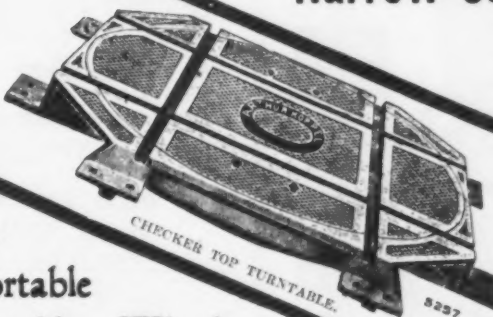
has no inside scoops or paddles—nothing but breaker rods, with an interior absolutely smooth and free from complicated mechanism. At 15 revolutions a minute the entire contents of the cube are thrown back and forth and broken over the breaker rods 90 times—a more thorough mixing than is secured by any other mixer. There are no pockets, scoops or blades to separate the ingredients. The breaker rods break up any possible lumps or masses in the material, and it is impossible for ingredients to adhere to them—no possibility of balling up or clogging—the entire batch must be evenly mixed, insuring perfect concrete. As a mortar mixer it has no equal. It is the only mixer which can be dumped by the same power that operates the machine. We control all patents covering this device. There are no insides to clean, and no paddles, scoops or shelves to clog, wear out and get out of order. It requires less power to operate than any other mixer, consequently uses less coal and requires less labor. The "Chicago" has fewest number of parts, requires least time to mix and insures absolute uniformity of concrete. Sizes and mountings for every equipment. Write for Catalogue No. 16.

Municipal Engineering and Contracting Co.

General Offices: Railway Exchange -- CHICAGO, U. S. A.
New England Agents: The Dyer Supply Co., 7 Sudbury Street, Boston
New York Office: 150 Nassau Street



STANDARD STEEL DUMP CAR
DUMPING TO BOTH SIDES.



CHECKER TOP TURNTABLE.
5237



PLATFORM CAR DUMPING
TO ONE END OR
BOTH SIDES.

WE CARRY IN STOCK:

Rails, Steel Ties, Portable
Track, Permanent and Portable
Switches, Crossings, Turntables, Wheels
and Axles, and a Large Stock of Standard
Types of Wooden and Steel Dump and Flat Cars.

DEPT. R.
66-68 Broad Street,

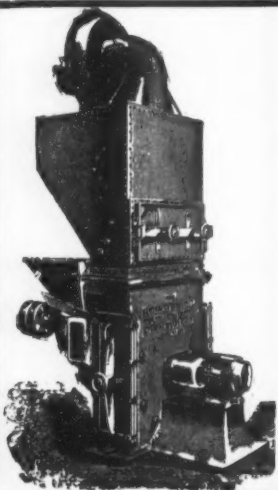
New York.

DEPT. R.
618 Monadnock Block, Chicago, Ill.

Tell 'em you saw it in ROCK PRODUCTS.

Cyclone

PULVERIZER.



STRAKER'S PATENT.

AIR SEPARATION—The product can be made of any desired fineness without sieving.

DUSTLESS in operation.

OUTPUT per H. P. per hour of the Cyclone Mills is much larger than that of any other mills.

We build **SCREEN SEPARATION MILLS** too.

CATALOGUE on request.

WRITE US WITH SAMPLES AND PARTICULARS.

E. H. STROUD & CO.

Manufacturers for U. S., Canada & Mexico.

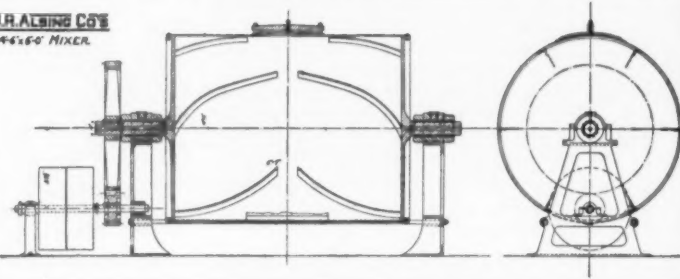
30-36 La Salle Street, - - CHICAGO, U. S. A.

J. R. Alsing Co's.

MIXER

Has been in successful operation for many years, on various materials.

J. R. ALSING CO'S
461-60 MIXER.



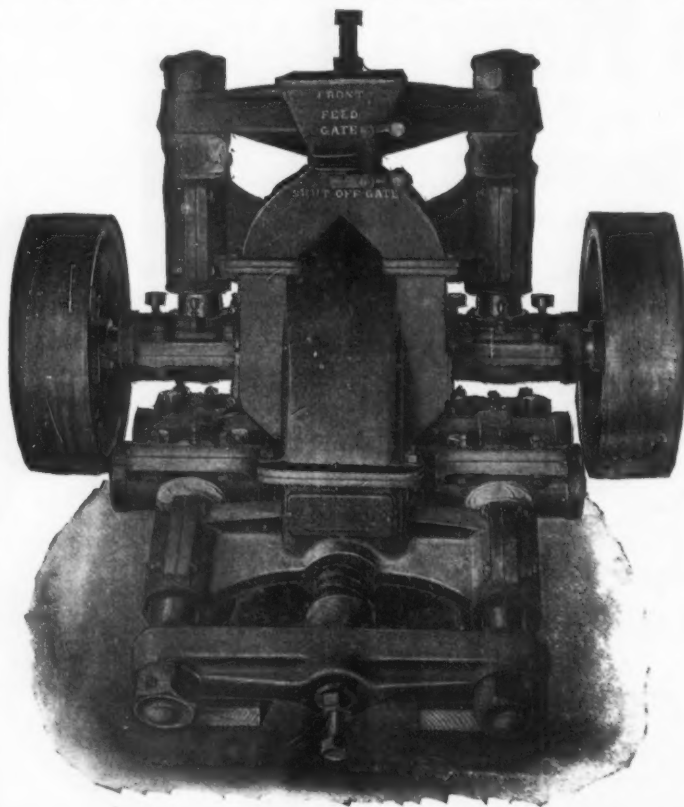
Can mix all materials that are not sticky.
Built in sizes to meet the requirements,

BY

J. R. ALSING CO.,

136 Liberty St, NEW YORK

THE KENT PULVERIZER



Takes one inch feed. Grinds to any fineness from 10 to 200 mesh.

GRINDS PER HOUR WITH LESS THAN 25 H. P.

CEMENT CLINKER,	40 bbls.	to 98%	20 Mesh.
CEMENT CLINKER,	12 "	" "	100 "
LIMESTONE,	2½ tons	" "	200 "
LIME,	4 "	" "	100 "
ROSENDALE CEMENT,	43 bbls.	" 90%	50 "
QUARTZ TRAP-ROCK,	4 tons	" "	40 "

You can easily figure from this what a Kent Mill would save for you.

W. J. BELL, Esq. Supt.
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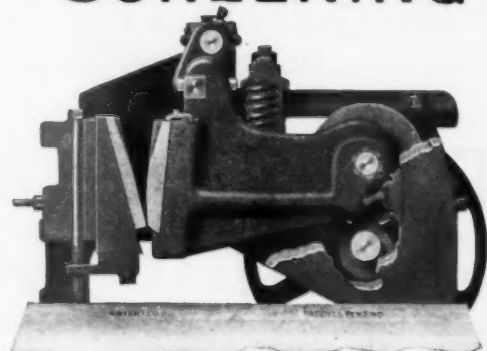
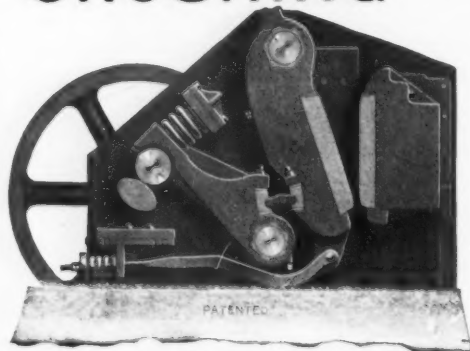
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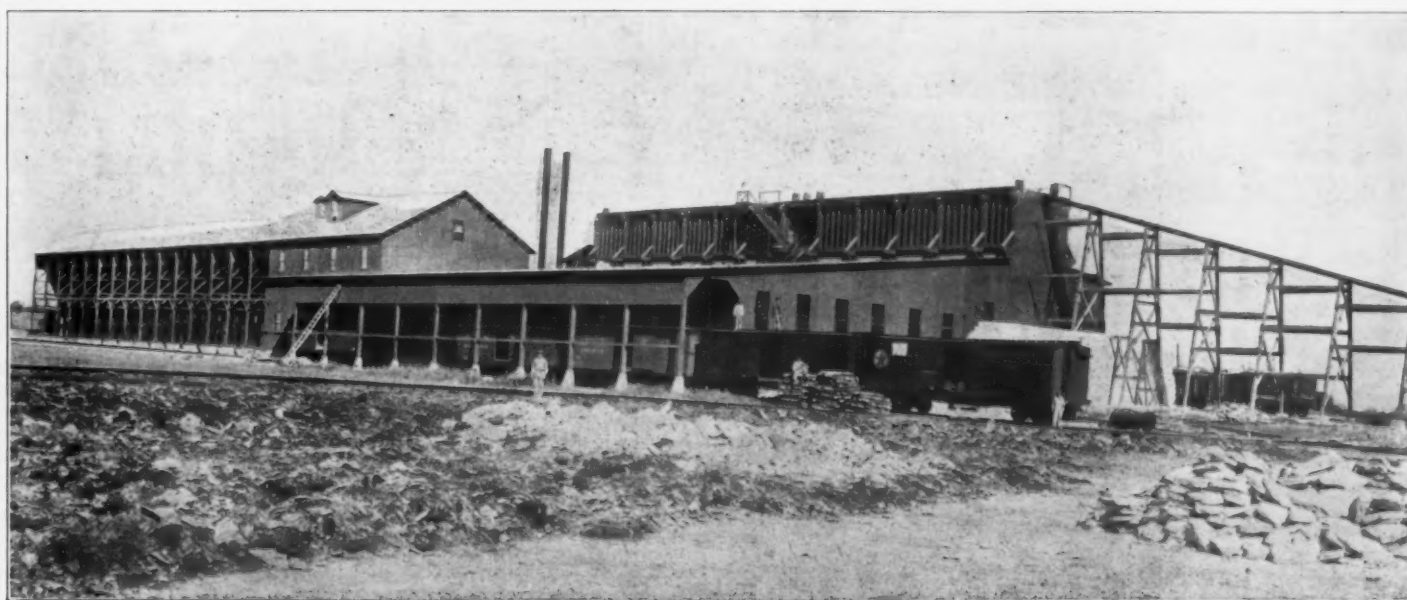
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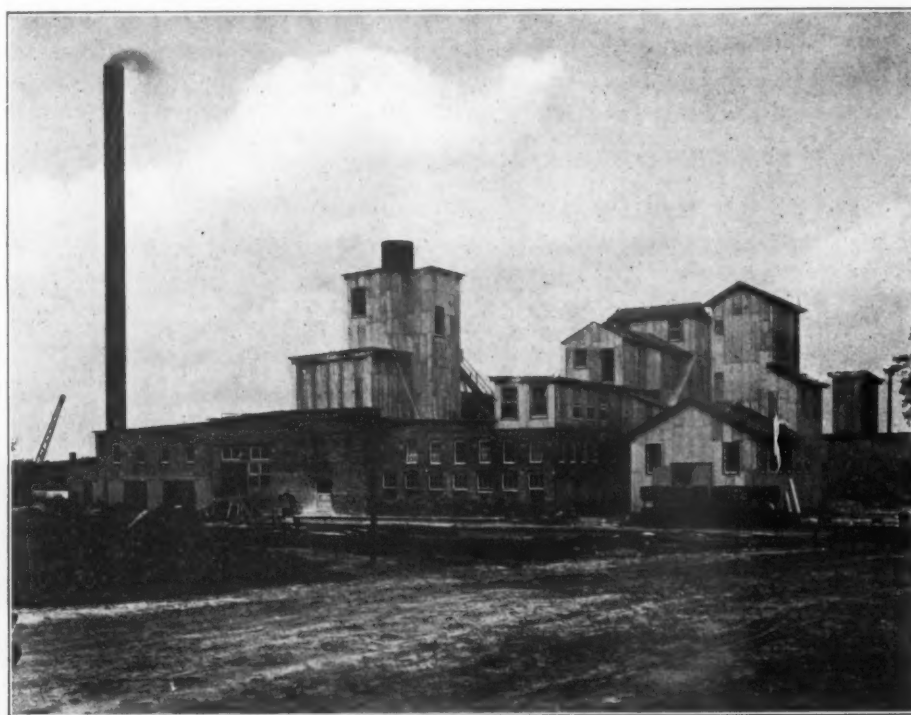
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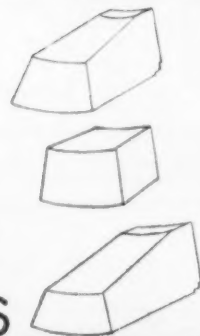
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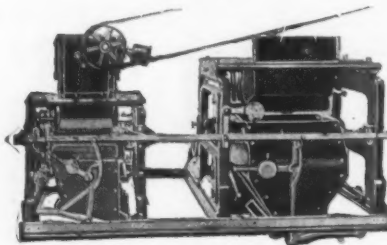
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Entered as second-class matter December 16, 1905, at the Post Office at Louisville, Ky., under Act of Congress of March 3, 1879.

THE FRANCIS PUBLISHING COMPANY,
Publishers.

E. H. DEFEBAUGH President.

A semi-monthly trade journal devoted to the interests of the manufacturers and dealers in rock products and kindred lines, including Lime, Cement, Salt, Sand, Slate, Granite, Marble, Sandstone, Grindstones, Artificial Stone, Emery Stone, Quarries, Monuments, Manganese, Asphalt, Phosphates, Plaster, Terra Cotta, Roofing and Roofing Tile, Coal, Oil, Mineral Wool, Brick, etc.

EDITORS.

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ASSOCIATE EDITORS.

HENRY C. WHITAKER Barre, Vt.

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Regular Staff Correspondents in the Principal Centers.

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LOUISVILLE, KY., JUNE 22, 1906.

Only One Obstacle Left.

The tower of Babel has been variously estimated to have reached the height of 200 feet for the lowest and 350 feet for the highest, and through all the ages of sacred and profane history up to the present generation, it stood as a model of man's overwhelming presumption to build beyond the clouds.

Many of the modern skyscrapers that have been constructed by the engineers of this generation reach far beyond the highest figure that has ever been placed as the probable height of this wonder of the ages. Now, indeed, an eminent New York engineer and practical builder who has to his credit many of the finest skyscrapers of the metropolis states that a 100 story building, built of reinforced concrete and towering more than 1,000 feet from the ground may yet be seen by people who are living and even reached middle life.

The fifty story buildings which are now being seriously considered as a future possibility, will constitute but a stepping stone to the seventy-five story buildings and then to the one hundred story buildings. The principle drawback which now presents itself is said to be the impossibility of providing elevator accommodations for even a fifty story building for the reason that the weight of the cable to support the car in the numerous thirty story buildings now in commission, is enormous and some other method of utilizing the upper floors will have to be invented and introduced before the skyscraper can be built any higher. The limits of the elevator, as understood at this time, have been already reached.

SOME of the prettiest residences that have been built this year are constructed entirely of concrete.

HIGHER prices for Portland cement means renewed activity in the business of the manufacturer of natural rock cement and it is said that they are having a brisk call for all that the plants can turn out.

THE demand for Portland cement continues to increase in a greater ratio than the price has advanced. The consumption of the cement in this country is one of the most wonderful developments of the age.

THE dealer who accumulates a line of good information about the building material he is handling can spread it among his customers to good advantage and thus help the manufacturer, and increase his own business.

THAT accumulated reserve force purchased by a trip to Florida in the springtime, should not be exhausted before the summer is half over, for the business of 1906 in builders' supply lines will exceed any former year.

IN the matter of equipment don't overlook the fact that elevating and conveying devices are the cheapest carriers for all kinds of material, and that human pack-mules are the most expensive as well as the most refractory elements that the manufacturer has to contend with.

THE manufacturers of plaster who use wood fibre as a filler, state that their product in constantly improving in popularity and the fact that the producers of natural rock plaster materials have practically sold their entire output, has had a tendency to make business good with them.

THE concrete blocks manufactured this season show a marvelous improvement over anything that has been heretofore produced. Constant education and persistent practice have been the cause of this improvement so that now a high standard and reliable building material can be had at almost any locality.

WE are only beginning to learn the practical and permanent uses of concrete. The possibilities for artistic development and fine lines of finish have as yet hardly been touched upon. At no distant day, the finest work of the sculptor will be modeled in a concrete mixture and then turned into stone as the true original of the artist's work.

THE first motive that ever impelled man to construct for himself a habitation was the necessity for shelter and yet in the construction of every kind of building there is less attention given to the roof than to any other part of the structure. Is it not time to consider the best and the cheapest fireproof, waterproof and rustproof roofing materials?

THE growing popularity of hydrated lime in all the markets where it has been intelligently introduced, is built upon the high merits of the goods. The saving of time is big money to the contractor in these days when it appears that there are not enough laborers to do all the work in the building trades. Then on the other hand quality counts.

THE American Portland Cement Manufacturers held their regular quarterly meeting at Hotel Brighton, Atlantic City, N. J., on June 11, 12 and 13. There was the usual good attendance and a healthy feeling of prosperity pervaded the occasion. A number of papers were read of ex-

treme practical interest to every one present, some of which will be published in pamphlet form for general distribution.

IT looks like the building material experts out at San Francisco are all able to find some indorsement for their particular line of goods, in poking around the ruins. One good thing at least is being accomplished, namely, the careful study of the results of earthquake and fire with reference to the material to be used in the reconstruction of the great western metropolis and a greater, safer, sounder city will be the result, which will also be a model for succeeding ages.

IF the dealer in builders' supplies will only remember to write to his trade paper for information regarding up-to-date building materials, we will take pleasure in posting him upon the latest development in any line in which he may be particularly interested. Our travelers make a personal inspection of all the factories throughout the length and breadth of this land where such commodities are produced and we have the information on tap free for the asking.

DON'T fail to carefully consider the advertising pages of ROCK PRODUCTS, for they constitute the best directory of supplies of machinery and equipment to those who have their money invested in the manufacture and sale of the product of the quarries in every form. Organization and equipment are the two great factors which, woven together with intelligent advice, have made possible modern progress, building up the great industries in this country which are the wonders of the world.

THE cheapest thing in quarrying and mining operations is the automatic carrier whether it be expressed in the shape of rails with specially designed cars, bucket chains or endless belts. Almost any other device could be set aside or substituted for, while automatic conveyors are considered indispensable, and yet there are still more operators who laboriously trundle heavy materials in the wheel barrow or who use the hod, the same as the Egyptian builders did before the children of Israel escaped.

THE rock crusher man is having the time of his life. There never was such a demand for the product of a crusher and it continues to grow day by day. Crusher plants of a size that were undreamed of a few months ago, are being erected in every direction and even the waste dust which in times past had to be disposed of at considerable cost, now finds a ready market at good prices. The crusher man who is not making money owes it to himself to take a day off to think out the reason, for it is certainly up to him to make some radical changes either in his equipment or his organization.

THE wooden lath and the wooden shingle which have so long been familiar features in the old line of building materials, occupy the peculiar position of deteriorating rapidly in quality, while they are increasing enormously in price, apparently in the same ratio for lath that is mere offal of the saw mill and shingles which are even worse, are quoted at prices even higher than when such goods were really worth considering. Now with the clay and cement tile and the expanded metal lath as substitutes, the days of such makeshifts are numbered, for the modern bidder realizes that the best is the cheapest when the difference in price has got to be a mere bagatelle. The enterprising dealer in builders supplies has already recognized this condition and in every locality in the land he is putting in a line of these deservedly popular goods and finding a ready sale for them, too.

PULVERIZING MACHINERY.

Progress of Most Important Feature in
Manufacturing Product of the
Quarry.

BY RICHARD K. MEADE.

The grinding proposition of a modern Portland Cement mill is one of the toughest problems which now confronts the mechanical engineer. At a plant producing 1000 barrels a day, over 500 tons of material must be ground to an almost impalpable powder every 24 hours. Three hundred tons of this quantity represent the raw material which must be reduced from pieces of stone as large as a man can handle to such a degree of fineness that from 95-98 per cent of the product will pass a 100 mesh sieve. The other 200 tons represents the slag like clinker, which must be pulverized so fine that at least ninety-two per cent of it will pass this sieve. The coal necessary to furnish the motive power for the machinery necessary to grind this quantity of material, and the labor and material required to keep this machinery in operating order constitute the most important items in the cost of portland cement manufacture.

The means now at hand for reducing material to a size passing a half inch ring screen are fairly efficient, consequently the search has been largely confined to the securing of a pulverizer to reduce the material from the size delivered by rolls and crushers to that necessary for the final product for the kilns or the market. In view of the importance of the cement manufacturer's being posted on the best methods of pulverizing, I have undertaken below to describe a new mill which is giving unusually good results, wherever tried, and which promises to become an important factor in the grinding of cement, its raw materials and the coal for their burning.

Details of the Newest Mill.

This mill is called the Fuller-Lehigh Pulverizer Mill, and is manufactured by the Lehigh Car, Wheel and Axle Works, Catasauqua, Pa. It is shown in the illustration. It consists of a horizontal ring or die L 40, against which revolve four balls, L 19. The balls are propelled by means of a pusher, L 18 A, upon which the balls also rest. The die pusher and balls are made of chilled Swedish iron, and the latter weigh 112 lbs each and are 9 1/4 inches in diameter. They revolve at a speed of about two hundred and ten revolutions per minute, and hence press against the die with enormous (centrifugal) force.

The material to be ground is fed into the hopper, L 70, and from this into the mill by means of the screw conveyor L 68. The material entering the centre of the mill falls down into the pan of the mill, situated below the die, and is thrown up from this, in between the rapidly revolving balls and the stationary die, by means of plow L 42 R. The material is pulverized by the rolling of the ball against the die, the pressure of each ball against the latter being 1600 lbs, the grinding action being similar to that of a mortar and pestle. The fully pulverized material is sucked upwards by the fans, F, and blown through the screen R, falling down between this screen and the outer casing and being discharged from the mill at L 26 A. The coarse particles being too large and too heavy to be carried upward and through the screens by the fans fall back into the trough to be again thrown up between the die and the balls, etc. The plows and pushers are all attached to a central shaft which is driven from below by means of a pulley. This shaft extends through the top of the mill and actuates the feeding device.

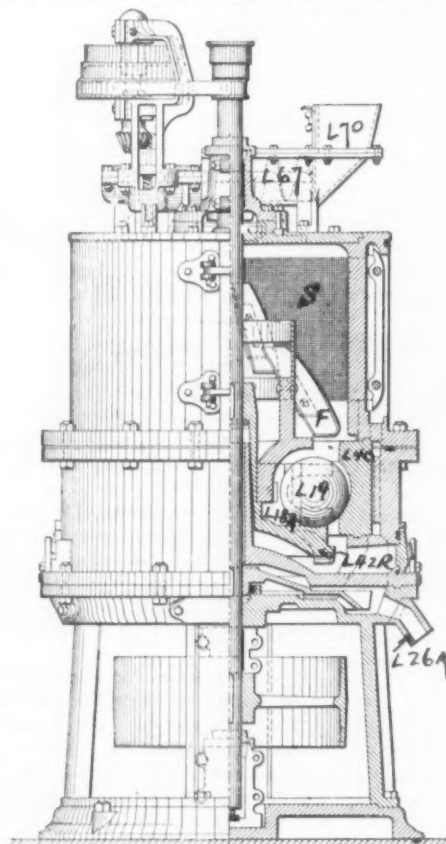
The feed to the mill and consequently the fineness of the product may be controlled in two ways, either by a slide on the hopper or by means of the stepped pulley, connected to the screw conveyor by gearing. The mill is provided with two screens, one the inner, of one inch mesh and made of very heavy wire to protect the fine outer one. This outer screen on mills designed for pulverizing coal and rock is a 35 mesh screen and is made of No. 29 wire, while that on mills for cement clinker is 40 mesh and is made of No. 31 wire. The outer screen can be replaced with only a few minutes delay. Indeed the whole mill can be quickly dismantled. The mill is mounted on a heavy iron base, is entirely encased and is practically dustless when running. There is an opening, covered by a plate in the

top of the mill and a light may be lowered through this into the mill to examine the screens, balls, pushers, etc., at any time the mill is not running.

The fineness of the product delivered by the mill can be regulated by increasing or diminishing the feed to the mill. The size of the fine screen surrounding the mill also controls the fineness to some extent. It is possible with this mill to secure a product of almost any degree of fineness.

Wear and Life of the Parts.

As will be seen by referring to the above description, the only parts of the mill that can wear are the balls, pushers, the die and the screen. As the die wears it conforms to the contour of the balls, and the closer contact between the two results in a greater output of the mill. The central shaft is not subject to sudden and constant jars and hence will not crystallize and break. The parts subject to wear of which the balls get most, can be quickly replaced. The screens on clinker last on an average three weeks, and on the cement rock limestone mixture of the Lehigh Valley, last at least two months. The balls and pushers wear from a minimum of one



SECTIONAL VIEW OF THE FULLER-LEHIGH PULVERIZING MILL.

month on very hard clinker to two months on raw material and 3 to 4 months on coal. Practically the only parts of the mill which have to be replaced are the balls, pushers and screens. The pushers are reversible and hence when worn on one side they can be turned around. The tire or die will last over two years. The actual cost of keeping one of these mills on clinker in repair at one of the plants of this section amounted to \$45.00 per month, on an average, while on raw materials the repairs only cost \$16.72 per month average.

The mill requires about 35-40 horse power to operate, and requires small floor space, hence shorter main shafts are required than would be the case with ball and tube mills. The mills take up even less floor space than any other pulverizing mill of similar capacity, and require but a small amount of foundation. They may be placed in a row and driven from one line shaft, doing away with the loss of power in the counter shafts necessary to drive any considerable number of tube mills. They can be quickly set up. Cement plants having insufficient grinding capacity will find this an excellent mill to help out their other grinders, because the small amount of floor space which it requires will permit of its being

"tucked away" in some corner where other grinding machinery could not be put, from lack of room. The mill is also much less expensive than any other form of pulverizer. This is, however, but a small part of the saving effected by the installation of this mill. The small floor space which it requires allows the construction of smaller buildings and foundations, and shorter shafts and conveyors. There is always a saving in power by their use, which economises in engine and boiler installation.

The material should be prepared for this mill by means of a set of rolls just as would be done for a Griffin mill; or Kominuters, provided with coarse screens, may be used for this purpose.

Experience and Tests.

The Fuller-Lehigh Pulverizer mill has been used in the Lehigh Valley for grinding raw material, Portland cement, clinker and coal. At the plant of the Bath Portland Cement Co., the writer recently made a test of one of these mills grinding raw material (cement rock and limestone), with the result that the mill ground 4 1/4 tons per hour to a fineness of 95.9 per cent through a No. 100 sieve, and 90.9 through a 200 sieve. At another time the mill ground 3.9 tons per hour to a fineness of 96.4 per cent through a No. 100 sieve, and 91.9 through a No. 200 sieve. The assistant superintendent told me that he considered these tests as representative ones and that he had frequently tested these mills under unfavorable circumstances, such as very coarse or damp feed, and had never found them doing less than 3 1/2 tons per hour to a fineness of at least 93 per cent through a No. 100 sieve.

The importance of fine grinding of the raw material is now so well understood that it is hardly necessary here to more than emphasize the fact that the finer the raw material is ground the better. Fine grinding is not only necessary in order to produce a sound cement which will stand the boiling test but it also makes the raw material easier to clinker and consequently increases the capacity of the kilns and decreases the coal consumption. As showing the necessity of fine grinding of the raw material the writer may mention the fact that in one instance which came under his observation, it was found impossible to make the cement stand the boiling test when the raw materials were ground to a fineness of only 90 per cent, through the No. 100 sieve, while no difficulty at all was experienced in doing this if the fineness of the raw material was increased to 95 per cent through this sieve, the composition remaining the same.

In the above test of the Fuller mill, the feed to the mill was the product of a set of rolls and consisted of material, a large part of which would not pass a 1/4 inch ring screen.

The Quality of The Product.

A remarkable fact about the product of this mill is the relatively large amount of fine material passing a No. 200 sieve in comparison with that passing a No. 100 sieve. This has a very important bearing on its use as a cement pulverizer. The value of cement depends upon the amount of impalpable powder or flour it contains, and generally speaking, the greater the per centage of 200 mesh product for a given fineness through the No. 100 sieve the greater will be the quantity of flour in the cement. The gritty particles of cement have practically no value and any mill which produces fineness without flour is not suited to grinding cement.

As a pulverizer for cement a Fuller mill on a recent test run, at the plant of the Phoenix Cement Co., ground 3459 lbs., or 9.1 barrels per hour to a fineness of 92.2 per cent through the No. 100 sieve, and 76.9 per cent through the No. 200. The clinker for this test was especially hard, well burned clinker and was prepared for the Fuller-Lehigh mill by ball mills. Wishing to confirm his theory that the product of this mill contained an unusually large amount of flour, the writer had briquettes made of some of the cement ground during this test run, with the result that his views were entirely borne out, as the following unusually high breaks will show.

	7 days.	28 days.
Briquettes	416	438
1 part cement	438	418
3 parts Standard sand.	392	429
	385	435
	402	403
Average.....	406.6	424.6

At another plant the mill is grinding 12 barrels per hour to a fineness of 95.3 per cent through a No. 100 sieve, and 81.6 per cent through a No. 200. This mill is working on the tailings from an air separator.

At a test run recently made to show how fine a product could be obtained with a Fuller-Lehigh Pulverizer it was found possible to grind cement as fine as 99 per cent through a No. 100 sieve, and 95 per cent through a No. 200 sieve. At this fineness the mill had a capacity of 4½ barrels per hour. This test shows how valuable the mill would be to "pull up" the fineness of mills already installed, but which will not give a product of the necessary fineness to fill standard specifications, or for burning a sound cement without seriously cutting down their efficiency and increasing the wear and tear upon them. Probably no other mill could be economically run to produce such extremely fine cement. At the end of the four days run at this fineness, the mill showed no unusual signs of wear or strain.

The Fuller mill has been used continually upon coal at the Alpha Portland Cement Co. They consider it efficient and economical. Its being dustless also adds greatly to its value as a coal pulverizer, reducing the danger of fire and explosions. Coarsely ground coal does not ignite promptly and consequently is wasted by incomplete combustion in the upper part of the kiln to carbon monoxide. The writer has found as high as three per cent of this constituent in the stack gases of kilns fired with coarsely ground coal, while under normal conditions with finely ground coal the amount of carbon monoxide present is seldom over one per cent, and may often be as low as 0.2 per cent.

As a final example of what the Lehigh-Fuller mill is doing, one of the new mills of the Lehigh District, some six weeks ago, put in one of these mills upon trial, grinding cement rock and limestone mixture. The manager of this plant told me he had repeatedly tested the output of this mill and had never found it less than three and a half tons per hour, of a fineness of at least 97 per cent, through the No. 100 sieve. As the result of his six weeks trial of this mill he will install them exclusively in the "raw mill" and in the coal mill to do the final pulverizing, using Kominuters to prepare the material for these.

San Francisco Cement Situation.

William J. Dingee, principal stockholder of the Standard Portland Cement Co., and of the Santa Cruz Portland Cement Co., has written the following letter to Mayor Schmitz, of San Francisco, on the question of a cement supply for reconstruction purposes:

"On behalf of the Standard Portland Cement Co. and the Santa Cruz Portland Cement Co., I desire to state that the present capacity of the Standard Portland Cement Co. at Napa Junction is 2,000 barrels a day. We will have it increased to 3,000 barrels a day by the first of July. The Santa Cruz Portland Cement Co. will have a capacity and will be ready to ship cement by November 1, I have no doubt, of 6,000 barrels a day. We have already ordered the machinery to increase that to 9,000.

"I further desire to state to you that we will do our utmost to supply the demand, giving the preference to San Francisco and other stricken cities, at the same price that prevailed before this terrible catastrophe befell us.

"I have given instructions to the Western Fuel Co. that they shall not sell cement to speculators who will take advantage and sell it at higher figures."

Height of Skyscrapers Fixed.

That the height of class "A" buildings—the skyscrapers—should be in proportion to the width of the street, was accepted as a fundamental principle by the San Francisco committee on rebuilding in that city.

It was decided to fix the limit for such structures at two and one-half (2½) times the width of the thoroughfare on which they front.

It was determined by the committee that this proportion would permit the erection of buildings 155 feet in height on Montgomery Street, and that as many property owners there would perhaps not want to go higher than this in construction, there would be more difficulty in getting them to consent to widen the street than if the proportion for buildings were only two times the width of the thoroughfare.

SAN FRANCISCO LESSONS.

Intelligent Building Ordinance Adopted With the Advice of Expert Architects and Engineers.

CLASSIFICATION OF BUILDINGS.

In every great calamity there is a lesson, and the lesson that we must learn from the San Francisco earthquake and fire is how to construct so as to guard against a repetition of that awful holocaust. Some of the greatest engineers, architects and builders have visited the scene of the great devastation and we give in this issue their opinions as to which of the buildings stood the test best, and what style of construction is to be preferred in the rebuilding of San Francisco. The consensus of opinion seems to be that steel construction and reinforced concrete will have precedence in the future. After these great experts had finished their meeting, the authorities of San Francisco prepared a new code of building laws which clearly define the style of building, method of construction, kind of material and height. The day of the tall building is over as far as San Francisco is concerned for the height of the building will be regulated by the



CROCKER-WOOLWORTH BANK BLDG., CORNER MONTGOMERY AND MARKET STS., WALL OF UNION TRUST BUILDING.

width of the street. Frame buildings will not be allowed in certain portions of the city.

Structural Engineers on San Francisco Building.

A meeting of representative structural engineers, who have been accumulating data on fireproofing as applied to building construction and who are desirous of making a study of the effects of the recent earthquake and conflagration, was held on the evening of May 17, in the rooms of the State Harbor Commission, at the Union Ferry Depot building, San Francisco. The invitation to attend was extended to all engineers engaged in the designing, fabrication and erection of any structural materials of a permanent or fire-resisting character, such as steel, terra cotta or reinforced concrete, including engineers employed as experts in fireproofing by insurance companies, as well as testing experts. The men who have had this matter in charge, and who called this initial meeting are: John D. Galloway, consulting engineer; C. H. Snyder, of Milliken Bros., contractors; Lewis A. Hicks, of Lindgren-Hicks Co., contractors; Loren E. Hunt, testing engineer, University of California; John B. Leonard, consulting engineer; Frederick S. Edinger, of C. E. Loss Co.; Mr. Hoyt, of Long & Hoyt; Charles Derleth, Jr., professor structural engineering, University of California.

About one hundred engineers attended the meeting, which was called to order by Lewis A. Hicks. An organization was perfected to better enable the engineers to work together in the reconstruction of the city, and to agree upon the best forms of construction to withstand rocking strains and fire. The meeting was addressed by General William Seward Smith, who built one of the first steel bridges across the Missouri. He said: "After the fire at Chicago, I went over the ruins and I there determined to discover, if possible some method of construction that would prevent such destruction by fire. I found it in asbestos and talc. It has been used and proved effective. What you need here is the strongest material on earth for frame work—that is steel. Steel has two enemies, heat and corrosion. You have no adjacent deposit of asbestos. What I want to find here is a deposit of talc. Plastered or with cloth over the steel, the talc will prevent its ever being affected by heat.

"I have had a long and difficult career, and if I can close it by introducing here a style effective against heat and rocking strains I shall be satisfied."

Charles C. Moore said that he was in the east at the time of the disaster, and there it was thought that 98 per cent of the damage was done by the earthquake. He thought that a report, proving the small proportion of earthquake damage should be prepared and sent out showing also what styles of construction had withstood the shock. He said: "Eliminating the City Hall and the Hall of Justice, the damage by earthquake was not more than from \$3,000,000.00 to \$5,000,000.00, or 1 per cent of the total loss. Let us make a list of the buildings that have stood."

C. H. Snyder reported for the committee on officers and nominations, suggesting the four usual officers and sub-committees on the following subjects: Foundations, steel construction and design, fireproofing and steel work, fireproof floors, fireproof partitions, material for exterior walls, interior finish, class C construction, building ordinances, history and earthquake.

It is the intention to publish the reports of these committees in pamphlet form, to be used by the structural engineers in their work of reconstruction.

John D. Galloway said that a new building code had been prepared by the sub-committee of seven, which would be submitted to the committee of forty and presented to the supervisors. He said that the new building law did not shut out any one material, but left a great deal to the architects and engineers in the matter of material. It, the requirements for the size of columns and girders and wind braces the law would be a stringent one.

New Building Ordinance.

The committee appointed to draft a new building ordinance for San Francisco has made its final report to the Board of Supervisors. This will, it is understood, be adopted by the board practically without change. One of the important features of the new ordinance is the classification of buildings. The classification is as follows:

Class A buildings shall be built with a steel frame supporting all floor and wall loads. The structural parts shall be built of incombustible materials. Class A buildings may be built anywhere in the city.

Class B buildings shall be built with the walls supporting the adjacent floor loads, and with steel or reinforced concrete columns supporting portion of the floor, or with walls self-supporting only, and floor loads carried entirely by steel, cast iron or reinforced concrete columns. The maximum limit of height of this class of buildings shall be 162 feet, and the structural parts shall be of incombustible material. Class B buildings may be built anywhere in the city.

Class C buildings shall be built with walls supporting the adjacent floor loads and with the interior floors supported by studded partitions, or by wooden, steel or cast iron columns and girders. Combustible material may be used in all parts except walls. The limit of height of this class of buildings shall be seventy feet if metal lath be used throughout, and the limit shall be fifty-five feet if wooden lath be used. Class C buildings may be built anywhere in the city.

Frame buildings may be built entirely of combustible materials in the structural parts and the limit of height shall be forty-five feet. Frame buildings may be constructed anywhere in the city except within the fire limits, as established by the Board of Supervisors.

Structures that were formerly class B buildings are now classified as class C buildings, and a new character of fireproof building, consisting of reinforced concrete construction is provided for and placed in class B. These buildings have a maximum height of 102 feet, or six stories.

Concerning the height of buildings, the ordinance provides that buildings throughout the city shall not exceed in any case two and one-half times the width of the street upon which they front. Buildings fronting upon two streets shall be governed in height by the width of the wider street. Where no street is established the height of the building shall be determined by the Board of Public Works.

One of the new features of the ordinance is a provision that department stores, warehouses and buildings without partitions and used for the storage of merchandise shall not exceed 102 feet in height. There is also a new provision, requiring that schools, halls and places of public assemblage at varying intervals, except theaters, shall be of class A or class B construction.

Theaters have been covered in a special theater ordinance in the past. In the new ordinance theaters must be class A buildings. Whereas the theaters in the past have conformed in many particulars to the specifications of class A buildings, the old theater ordinance permitted the weight of the roof to be supported by the side walls. The experience of the recent calamity proved the fallacy of this form of construction, for it was due to this that the Majestic theater was wrecked.

Reinforced Concrete the Peer.

San Francisco contained no large buildings composed wholly of reinforced concrete, but the test of shock and fire was sufficient to clearly demonstrate that, as a building material, it is the peer of any kind of stone. That includes granite, sandstone, basalt, all kinds of brick, and terra cotta, etc. Looking all over the wide field affected by the shock and fire, there are very abundant evidences that concrete fully held its own along with the best of any of the varieties of stone. In the opinion of many experts concrete showed that it was superior to any other material—barring steel frames and plates. Where strongly reinforced, it certainly showed its resisting qualities to vibrations and intense heat, to excellent advantage. Like all other kinds of material, it yielded to the shock in hundreds of instances, was cracked, shivered and shattered to fragments. Under very long and intense heat concrete generally showed the effects all the way from being slightly damaged to the point of disintegration. The expansion from heat of the steel reinforcement rods often had a pronounced and telling effect: forcing asunder the concrete, producing cracks and sometimes wide fissures, and leaving them so after the reinforcement contracted. In this manner the structural integrity of the material was destroyed. The greatest and most severe heat tests were where concrete basements were filled for many hours—even days—with the burning masses from the lofty superstructures. In these pent-up confines the heat was fearful. To the advantage of concrete it may be said that a great many of such large basement walls have been found comparatively intact; that, with but little repairs, these same walls may be safely used to rear new structures upon. The same, as a rule, cannot be said regarding other materials, especially any and all kinds of brick. To these facts the friends and advocates of reinforced concrete call special attention. Naturally there is a wide diversity of opinion among architects, contractors, builders and engineers regarding the question as to which material possesses the greatest resistance to an earthquake and fire. There are found many experts who differ widely and yet honestly on this subject; there are many who believe that granite, sandstone, basalt, fire brick, vitrified brick, fine pressed brick, etc. are as strong and durable materials as any. However, the general expert opinion is that terra cotta is the weakest and most inferior of them all. This was pretty well demonstrated by the San Francisco disaster.

The logical outcome of the disaster is such as to bring reinforced concrete into stronger relief than ever, to make it a leading favorite among all competing materials.

Concrete Construction.

James McLaughlin, an Eastern construction engineer, has spent two weeks in critical study of the damage inflicted on the better classes of buildings in San Francisco by earthquake and

fire. Speaking as the representative of Frank B. Gilbreth, of New York and Boston, and the Underwriters' Engineering and Construction Co., of New York, he said: "My first observation is that the only materials which both withstood perfectly the violent shakes of the earth and the fierce ravages of the flames were concrete and reinforced concrete, where they have been used here in foundations, floors and in columns for fireproofing. The Ferry building, in which concrete flooring had been laid, was unaffected by the earthquake, so far as the main building was concerned. An example of its utility for fireproofing was afforded by the concrete protected columns of the St. Francis Hotel. It inclosed the steel columns and by the protection thus afforded saved that structure from burning.

"As to Class A steel construction, examples where the strength of the building was unimpaired was in those where gusset plates were placed under the girders and the girder beams. The best example of this was the Atlas buildings, on Mission street, near Second street. To show the advisability of the use of gusset plates, take the steel cages standing. Where they have been employed with stiffeners under girders and girder beams they have admirably served the purpose of sway bracing. In my opinion class A steel buildings constructed with stiffeners under gir-



THE DESTRUCTION OF SAN FRANCISCO AS COMPARED WITH OTHER GREAT CATASTROPHES.

ers and girder beams, and with stronger connections are capable of withstanding any shock, such as that of the recent earthquake. Undoubtedly the amended building ordinance will require stronger connections between beams and girder beams and if the girders and girder beams have gusset plates wherever they are connected with the columns, the best results will be attained. The most important factor in construction to withstand the earthquake shocks is the solid foundations. These may be on piles, but it is not my purpose to discuss the details of their employment at this time.

"For buildings of twelve stories or over there is the possibility of putting up steel cages with little extra expense than now, which would be proof against any earth vibrations. The ideal building of this kind would have reinforced concrete walls, supported by a steel cage, and in turn strengthening the steel cage so as to be able to resist horizontal and upward movements. This building would have reinforced concrete floors and partitions throughout the structure. Such a building, having also wire glass with metal sashes and a new kind of fire floor, which will probably result from the study of the effects of your great conflagration, will give a building which, with good foundations preferably resting on corrugated concrete piles, would be thoroughly fireproof and earthquake proof."

It will take some time to secure sufficient data

from which to make safe deductions as to the resisting powers of the various building materials when exposed to the combination of the rending and shearing earthquake strains and the effects of a great fire.

A contributor to a local journal, who signs himself "Expert", was the author of the following reply to the reports in favor of concrete construction: "Engineers, and others whose hastily pronounced opinions have flown into print, are, many of them representatives of or interested in concrete construction. Few people understand what concrete is or that in its use there lies greater opportunity for the use of inferior materials than any other construction, and it is universally admitted that poor concrete is absolutely worthless and, unfortunately for San Francisco, the sand banks are too near at hand.

"The papers have been full of the statements as to concrete being the only material for properly protecting the steel in buildings, which are unfounded in fact. A hasty glance at the first floor of the St. Francis Hotel, which evidently is all that is given by James L. McLaughlin, engineer for a concrete construction company, reveals the fact that concrete afforded protection to the steel columns of this floor, as intended. However, all the other floors of the St. Francis had the steel columns incased in hollow tile, and they are all standing and in perfect condition, except in two instances where the space was insufficient to incase with hollow tile of proper thickness.

Any unbiased engineer who will examine the following buildings: The Chronicle, St. Francis, Mills, Crocker, Mutual Life, Union Trust, Claus Spreckels and James L. Flood, will agree in the opinion that in all of these buildings hollow tile fireproofing did its work of protection of steel perfectly. The Fairmount is the most noteworthy example of the insecurity of concrete for protection to steel. Here the question arises, was the concrete fireproofing of the best quality and workmanship? Granted that it was not, what building ordinances can enforce honest work?

"A city of the dull grayness of concrete would defy all laws of beauty. Why, then, should we strive for a beautiful city?"

Interesting Comparison.

The Chicago fire of 1871 has always been referred to as "The Great Fire." Chicago's loss did not exceed \$190,000,000.00. Her loss was one-half as great as San Francisco's. The Chicago blaze raged for 48 hours. In San Francisco, it burned violently for 72 hours, destroying at the rate of \$1,543.00 per second. In Chicago, the area devastated was about three and one-third square miles.

The Boston fire of 1872 entailed a loss of \$75,000,000.00; Baltimore, less than \$50,000,000.00. The great fire in London in 1666, as stated, showed a loss of \$53,000,000.00; Moscow, burned in 1812 to keep out the French, suffered to the extent of \$150,000,000.00. New York in 1835 lost \$15,000,000.00 in its great conflagration.

San Francisco has known both fire and earthquake before. The tremor of 1868 is a favorite theme at present, but it was by no means as severe as the recent disturbance.

History tells that in 1812 a severe shock was felt at San Juan Capistrano Mission. During mass the structure collapsed and forty Indians met death.

The Charleston upheaval of 1886 threw buildings to the ground and killed forty-six people. The destruction of Caracas and Lisbon stand as the two greatest known disasters from earthquake. Lisbon was laid in ruins in 1755, and 60,000 people perished, a tidal wave aiding in the war of destruction.

In the recent earthquake in San Francisco, the sea seems to have been but slightly affected. There was no upheaval waves, but tides of great force were reported, vessels being unable to make more than slight headway against the sweep of water.

Of the "six great fires" of San Francisco, the first occurred on December 24, 1849, and the last on June 22, 1851. Each time, the heart of the town was swept bare.

The total loss of, say even \$400,000,000.00 means more than the average human mind can comprehend on the instant. It would dig the Panama canal and leave enough over to reclaim all of the swamp and arid lands of California. It would almost pay the running expenses of the government for a year. It would buy the entire American navy and enough remain to purchase the cream of all the other navies of the world. It would have almost paid the cost of the recent war to Japan.

From Our Own Correspondents.

GREATER NEW YORK.

NEW YORK, N. Y., June 16.—There is no evidence that there will be any let up in building operations for some time to come. More plans were filed for new buildings during the week just closed than for the corresponding period a year ago. During the second week of the current month fifty-three buildings were projected, as against forty-nine a year ago. The estimated cost of those started in the second week of June was \$749,400.00, while the plans filed last year represented a building value of \$697,050.00. From these figures it will be noted that there was little difference in the individual cost of structures projected this year and last. The average cost of each building projected during the week a year ago was \$15,000.00, while the average cost figured for the plans filed last week was \$13,200.00.

Asking prices for the one and two family houses now under construction have stiffened considerably since the beginning of the year. The announced reason for this is that materials are costing much more at present than at the close of last year. This is particularly true of rough and finished lumber. Despite this advance in prices, however, builders report that they are disposing of small houses as rapidly as they can be completed. In consequence of the favor with which small investors regard one, two and three family houses and the disposition on the part of the builders of large structures to use every possible fire-proof substitute for brick, the brick manufacturers are becoming uneasy and the market is much unsettled.

There have been several conferences of the capitalists who supply the New York market with brick, at which various suggestions were made looking to the restoration of brick to its old time popularity. The market at present seems to be overstocked and manufacturers along the Hudson river will not send such large quantities here as they have for some times past. For a time the price dropped to \$7.75 per thousand, but during the last week it advanced until the average reached \$9.00 with the demand light.

A Million-Dollar Apartment House.

Plans have been filed for a new ten-story fire-proof apartment house to be called the Park View, and to be built at the northeast corner of Madison Avenue and Sixty-sixth Street for the Park View Co., of which Chas. F. Rogers is president. It is to be of brick and limestone ornamented with terra cotta trimmings and will have a frontage of 100.5 feet on the avenue. It is to cost \$1,000,000.00.

Astoria, L. I., to Have New Water Main Extensions.

Owing to the rapid growth of the outlying sections of Astoria there is a general demand in that section for a better water supply. Building operations are being carried on with such rapidity that the city and borough officials have found it difficult to keep pace with them. The opening of DeBevoise Avenue by the city has enabled the department of water supply to take steps to relieve the distress in the easterly direction. The engineers of the department are now at work on plans and specifications for a twelve inch water main to be laid through DeBevoise Avenue from Freeman Avenue to Flushing Avenue. The main will permit of the extension of a number of small mains in residence streets near DeBevoise Avenue and hundreds of houses will benefit thereby.

There is a growing agitation in Glen Cove, L. I., to have the place incorporated as a village in order to raise money for water, sewer, light and other public conveniences. It is estimated that within an area of five miles from the principal business street of Glen Cove there is now a population of 7,000. It is felt that there is urgent need of a comprehensive sewer and water system and of fire protection. Several of the inhabitants are anxious to have a mass meeting and discuss incorporation.

\$463,309.00 for Buildings, etc., in Borough of Queens.

Building plans involving the expenditure of \$463,309.00 were approved by the Queens County Bureau of Buildings during the last week. Among the number is a block of four story brick tenements 25 feet by 65 feet, on Himrod Street and Cypress Avenue, Ridgewood, to be built by Martin Otto at a cost of \$35,000.00.

Great progress is being made in the development of the Massepequa tract of the Queens Land and Title Company. Several hundred men are now employed in grading the four thousand acre tract and opening highways that intersect the Merrick and Hicksville roads. Miles of sidewalks are being put down and thousands of dollars are being expended in adding to the natural beauty of the property. The land surrounding the mirror lake on the property is now being improved by the cutting away of some of the immense trees that for years obscured the water. A considerable portion of the big tract has already been sold to small investors, some of whom have filed plans for the erection of buildings. The roads, new and old, are being oiled and rolled.

Bronxites Declare They Have Been Discriminated Against.

The contention of the residents of the eastern section of the Bronx that they have been discriminated against in the matter of public improvements seems fairly borne out by the facts. Not only is the district east of the Bronx entirely without public sewers but in the matter of lighting but scant provisions have been made there.

It is the sewer problem, however, that chiefly concerns this section of the Bronx just now. They are of the opinion that the failure to give them adequate facilities in this regard is not only seriously retarding the growth of that part of the city, but that furthermore it means an actual loss to the city at large, through keeping down the taxable value of property in this extensive district.

The Unionport sewer, which would drain at least ten miles of desirable residence property, is still unauthorized after nine years delay. That the residents of the district affected should meet with encouragement in their efforts to secure this much needed public improvement would seem to go without saying. So whatever action the allied improvement organization take at their next meeting should apparently meet with public sympathy and support.

Lewis & Johnson, 1 Madison Ave., report that they have recently equipped the Universal Cement, Brick and Block Co., Bronx, N. Y., with a complete line of brick and block machinery, mixers, cars, etc., which they handle. Also the Paul C. Grening Construction Co., Brooklyn, N. Y., have purchased a similar outfit.

H. W. Heath, Yonkers, has installed a Helm press for the purpose of making fine front brick for which he has a large demand.

Wallace Appleton & Co., Flushing, N. Y., are developing a large tract of land and erecting cement brick houses, using the Helm press.

Gleason Realty Co., Unionport, are also installing a full line of brick and block machines, mixers, cars, etc.

This Plant is Certainly Up-to-Date.

The Newark Lime and Cement Co., of Newark, N. J., have just completed the overhauling of their plant, and to-day have one of the best modern equipped plants in this section. They have put in new conveyors and dump cars for unloading vessels and conveying it back to the mill. They have also put in a new generator and complete electric equipment throughout their works. The wiring and switchboard was put in by the Electric Repair Co., of 136 Liberty Ave.

Converting a Chapel into a School.

Plans have been filed for the remodeling of the Roman Catholic Church of St. Thomas the Apostle at 153 and 155 St. Nicholas Avenue into a three-story and basement parochial school. The basement will be refitted with separate playgrounds for boys and girls. The improvements are to be made for the Rev. J. J. Keogan, the rector, and are to cost \$5,000.00. I. H. Pool is the architect.

Rushing Work on Jersey City Court House.

Work on the concrete foundation of the new Court House in Jersey City is now being pushed vigorously. The crushed stone is arriving and carpenters are making the molds. There is a large concrete mixer on the grounds as well as a large supply of cement and other materials, and from the arrangements planned so far it looks as if the foundations will be laid in record breaking time.

George K. Thompson, the architect, is drawing plans for a six-story loft building to be erected at 429 and 431 East 10th St., on plot 40 x 75, owned by William L. Marshall. The building will have facades of brick with terra cotta and limestone trimmings, and will cost \$40,000.00.

Petitions Pouring In for More Improvements in the Bronx

When the local improvement boards of the Bronx met in Borough Hall, petitions asking for fifty different local improvements were presented to them for consideration. Practically all of the work asked for will be paid for by assessments against the adjacent property, and efforts will be made to have the board of estimate and apportionment act speedily on the resolutions that the local boards adopt.

Included in the petitions are requests for the opening of twenty-three streets, principally in the section east of the Bronx river, where building operations will be hastened by the official acquisition of the land necessary to make streets.

Most of the other petitions from property owners are for the regulating and grading of streets already opened or the construction of sewers and sewer basins. One of the matters to be discussed will be the scheme for completing the work of grading streets to connect the boroughs of Manhattan and the Bronx at Kings Bridge, including the proposal to widen Kings Bridge road, between Bailey Avenue and Spuyten Duyvil Creek.

Cement Floors Prevent Flames Spreading.

Flames were discovered issuing from the basement of the building at 6, 8 and 10 Gouverneur slip, occupied by the Victor Bathub Manufacturing Co., one day last week. The building is floor-ed throughout its four stories with cement, which prevented the flames from spreading. The damage was estimated at \$5,000.00.

Ten-Story Concrete Building for Brooklyn's Former Mayor.

Radcliffe & Kelly are preparing plans for a ten-story building to be erected for Charles A. Schleren, former mayor of Brooklyn, at the corner of Cliff and Ferry streets. It will be of reinforced concrete, on a plot 65x110, adjoining Mr. Schleren's present building, and cost \$80,000.00.

Avenue A to Have a Loft Building.

Wolf & Abraham contemplate erecting a seven-story store and loft building at 103 and 105 Avenue A, on an irregular 45x125 on the avenue and 25 x 90 running through to Seventh Street. Charles M. Straub who has completed plans for the structure, estimates the cost at \$85,000.00.

\$250,000.00 for Side Walks, Streets, etc., on Long Island.

Hollis Terrace, the charming residential suburb so successfully developed by the New York and Pittsburgh Real Estate Co., is just now attracting home-seekers and investors in great numbers. Contracts have just been made with Morrissey & McLaughlin, contractors, aggregating \$250,000.00 to lay sidewalks, gutters, curbs, macadamized and asphalt streets at Hollis Terrace.

The National Biscuit Co. has completed plans for an eight-story fire-proof factory to be built on a plot 95 x 110 adjoining its property at 434 to 448 West Sixteenth St. The estimated cost is \$150,000.00. A. Zimmerman, of Cincinnati is the company's architect. The facades of the building will be of brick, with stone trimmings.

Plans have been filed for a new six-story mercantile building with a ground floor store, to be erected for Lord & Taylor under a lease, at 11 West 36th St. It is to be of brick trimmed with limestone, 25 feet front and 90 feet deep with an extension, and will cost \$40,000.00. The owner is Mrs. T. T. Grant, of Watermill, L. I.

Even the Government is Using Their Lime.

The Farnham-"Cheshire" Lime Co., of 39 Courtlandt street report their business as bigger than ever. They are shipping a great deal of lime to Washington, Baltimore and Annapolis. The government has specified their lime for all public work at the latter place.

Will Erect a Big Plant Near This City.

The Curtin-Ruggles Co., of 39-41 Courtlandt street, have just closed a contract with the Oxford Copper Co. to build a new smelting plant at Constable Hook, N. J. It will cover about five acres and consist of several large buildings, it is expected to take about three years to build and will cost over half a million dollars. The buildings are to be of concrete entirely throughout.

Will be Ready for Business in a Month.

The Hoosac Valley Lime and Marble Co., of Adams, Mass., report work in their new plant as progressing nicely now, although they have been

delayed somewhat for iron. They expect to have two kilns in full operation by July 15. Thomas D. Conner, of 1123 Broadway, the well-known builder is the president and the work is being done under his personal direction.

Will Equip New Plant With Their Latest Improved Machinery.

The Standard Brick Machinery Co. have entered into a contract with the Stephens-Adamson Manufacturing Co., of Aurora, Ill., to manufacture exclusively for them all the elevating, conveying and power transmitting machinery together with their latest improved mixers, feeders and other special appliances required in the equipment of sand-lime brick plants operated under the Huennekes system.

The Lake Superior Stone and Brick Co., of Hancock, Mich., which was recently destroyed by fire is being rebuilt by the Standard Brick Machinery Co., of 114-118 Liberty street, N. Y., and will be operated hereafter under the Huennekes system, their new mixers, press feeders and other new machinery described above will be installed in the new plant.

New Union Railroad Station to be Built Soon.

We have just learned that the New York Central, the Boston and Maine and the New York, New Haven and Hartford Railroad companies have agreed upon plans for a union station in Worcester, Mass. The new building will be constructed as soon as the plans are approved by the city authorities.

Biggest Sand-Lime Brick Plant Now Under Way.

One of the finest sand-lime brick plants in the country is that of the New York Granite Brick Co., at South River, N. J., whose advertisement appears on another page of this paper. They have been making brick since June 1 and are turning out 75,000 perfect brick daily, they expect in the next ten days to be able to turn out 100,000 bricks, and from the way orders are pouring in it looks as though this enormous output will be all sold as soon as made. They are now busy installing an electric plant that will supply light for every nook and corner of the big works, and when that is completed they expect to work their force nightly in order to try and catch up with some of their orders. The brick they are turning out according to experts is pronounced superior to any made, not only in this country, but in the world. The management are only too glad to show visitors or persons interested in sand-lime brick around this magnificent works, it being but a short distance from their New York office, 114-118 Liberty street.

Echo of the Hudson Brick Yards Strike.

Herman Robinson, the New York representative of the American Federation of Labor, reported that although the strike of the members of the Brick, Tile and Terra Cotta Workers' Union in the brick yards along the Hudson was settled, the fight against the manufacturers was not yet over. There is a law, he said, by which they can legally work only ten hours a day in the brick yards, while they really have been working twelve, fourteen and sixteen hours a day. The Union had engaged Jacob A. Cantor to bring 5000 suits against the employers for overtime.

Permanent New York Agency for Pauly's.

Mr. R. L. Packard, of Tuckahoe, N. Y., who has been made sole agent for the state of New York of the Pauly's Concrete Wall machine, is sending out a very practical and interesting circular of the machines. It gives prices for all the different machines, plain face, margin, tool and rock, with frames for varying sizes of window caps and water tables. He also furnishes blue prints showing how to assemble this machine to operate it, or he will furnish competent men to oversee the erection of the plant.

Very explicit directions are given for the use of the machine from the ground platform up, and each stage of the handling of it is made so clear that no one could possibly be at fault in working it. The directions are helped out very materially by the accompanying photos of the machine in different stages of the operation. Mr. Packard is located in a good territory, right among the many reserved parks that are springing up around the city. Owners and builders are taking to the concrete construction idea and Mr. Packard has lots of good openings ahead of him.

Hook Mountain Escapes the Stone Crushers.

The Wainwright bill to save Hook Mountain and incidentally the upper part of the Palisades from destruction by the operators of the trap

rock quarriesmen, was signed by Gov. Higgins on June 1. It makes Hook Mountain a part of the Interstate Park under the control of the Palisades commission. It is proposed to raise the money for acquiring the mountain by subscription.

The quarry owners are naturally much exercised over the matter as it drives them from a most unexceptionable field for their operations. They have, however, anticipated the passage of the bill and have been working overtime and have greatly marred the face of the mountain. It is reported that they will unite to contest the law, on the plea of its unconstitutionality. Gov. Higgins also made a law of the Cassidy bill, appropriating \$50,000.00 for the purchase of Watkins Glen for the state. The control is to be given to the American Scenic and Historic Preservation Society and there is now no danger that this wierd mass of rock will ever become food for the stone crusher.

The large nine story building, all concrete, of the Turner reinforced system, has been in use for some time, and is standing up perfectly under the constant strain and pounding of the heavy machinery in it. It was built for Robert Gair, paper and paper box manufacturer. It stands out conspicuously at the Brooklyn end of the bridge, and is noticeable by its smooth, clean-cut and unique appearance and is daily picked out by travellers over the bridge as being something novel and notable and clearly different from all the surrounding buildings.

SYRACUSE, N. Y.

SYRACUSE, N. Y., June 15.—The records of the Superintendent of Buildings shows that permits for about \$170,294.00 worth of buildings have been granted thus far in June. This is about the same amount as was granted during the whole month of May, and shows a large increase over the corresponding period last week. The market for cement is firm and the price tends upward.

The Hudson River Co., which is owned by Lyman C. Smith, of this city, has more orders than it can fill. The Warner Portland Cement Co. is running full blast.

J. C. Dempsey has been awarded contracts for seven cement sidewalks, his bid being much lower than that of the other contractors. He agreed to lay walks for \$.11 to \$.12 per square foot.

Thomas Marnell, one of the largest contractors in Central New York, died recently as a result of being thrown from a buggy. At the time of his death he was engaged upon the contract of a tunnel sewer, one of the most difficult pieces of engineering ever attempted in this city. He laid many pavements and constructed many sewers in Syracuse. He was born in Naples, Italy, in 1858, and came to Syracuse in 1877. Before entering the contract business he was employed as a foreman in charge of railroad construction, holding a position with the Pennsylvania Central Railroad for five years. In 1885 he opened a bank. The contract business will be carried on by his son, Nicholas Marnell.

The Paragon Plaster Co. has moved into its new building at the corner of Franklin and W. Water streets. The company has erected a large building from their two piece cement block, among which is one at Syracuse University, and a residence for Andrew Telfer in Walnut avenue.

Clifford L. Miller, of Brooklyn, has closed negotiations for the right to mine gypsum on the farm of E. I. White, the price being in the neighborhood of \$20,000.00. These rights were owned by Levi S. Chapman, James E. Newell and the estate of Charles T. Blanchard.

A new company has been formed at Utica for the manufacture of brick to be known as the Mohawk Valley Brick and Supply Co. The capital stock is \$10,000.00 and the officers are as follows: President, Thomas E. McDermott; vice president, Thomas F. Convoys; secretary and treasurer, C. E. Hodges. The company has bought 27 acres located on Schuyler Road, and brick making machinery has been ordered from the Wellington Machinery Co. For the first year common brick will be made and the next year the company will undertake the manufacture of pressed brick. The company also expects to make cement, plaster and a general line of builders' and contractors' supplies.

The United Concrete Machinery Co. will soon begin the manufacture of machinery at the plant of the Cortland Employment Co., Cortland, N. Y. The company manufactures machines used for making cement blocks for building purposes. The company is now located at Charleston and as it is in its busiest season, will not move until September 1.

The Cuba Wood Fibre Plaster Co. will build a factory at Cuba, N. Y.

The Clifford L. Miller Co., of Brooklyn, which recently purchased the Severance quarries, are employing thirty men in their quarries. They have three kilns under construction and will soon commence burning lime. They are at present shipping plaster direct to their mill near Brooklyn, on Newton Creek, by canal.

The National Wall Plaster Co. is quarrying with about sixty men, and is turning out from 300 to 400 tons a week. The company owns twenty-five acres.

"There is practically an unlimited amount of gypsum in the towns of Marlus and Dewitt," said Harvey E. Dingley, of the National Co. "It is worth a great amount of money, but in some places it is difficult of access. If the railroad should be built and a large amount of it should be mined with modern economic methods, there would be a large profit. Gypsum is becoming more and more valuable."

What is known as the Tracy quarry, about two miles and a half from Gouverneur, has been started up again and the crushed products of the mine will be shipped to a big iron and steel plant at Cleveland. Under the management of James Murphy, an engine and boiler house have been built containing a 25 horse power Russell automatic engine, and the boiler of the capacity of 50 horse power. Placed upon a heavy frame work, forty feet from the ground, is the crusher. It stands in close proximity to the railroad spur and is so arranged that a car can be loaded by automatic action. An immense derrick conveys the stone on skiffs, each carrying about 4,500 in weight, and three or four loads are taken to the hopper which will hold, when filled, nearly thirty tons every five minutes.

The material is used as flux in large iron and steel furnaces for separating the impurities from the metal. J. B. Wadsworth, manager of the Corrigan-McKinney Co., is employing about fifteen men at present, but will add to the number as occasion requires until the necessary force to properly handle the increasing output is on hand. James Murphy is general superintendent.

The Little Falls Stone Co., of Little Falls, has installed a large stone crusher weighing 200,000 pounds, and having a capacity for crushing 160 car loads of broken stone per day. The output of the crusher is conveyed by large steel elevators 90 feet high to the sizing screens, which separate them and drop them into bins beneath which run the railroad cars to be loaded. The company has a large contract to deliver ballasting stone to the New York Central Railroad.

CHICAGO, ILL.

CHICAGO, ILL., June 19.—There is no diminishing demand for crushed stone, and all those engaged in the business, either here or places immediately adjacent to Chicago, have their stone crushing plants in full operation. The demand for crushed stone has increased beyond all the expectations of those engaged in the business.

The Brownell Improvement Co., having offices in the Chamber of Commerce Building, have plants at Thornton and several branch plants in this city, say they are rushed with business and are constantly crowded to meet all demands made upon them. They are carrying several contracts made with the city which keeps them actively employed all the season around.

The Producers Supply Co. is another large firm having offices in the Chamber of Commerce Building, and are engaged on a large scale, supplying crushed stone for many public and private uses. The firm say they are pressed hard to meet all the demands made upon them. The call this year for crushed stone has nearly doubled what it was last year, and sales of stone crushing machinery during the past six months have been out of all proportions of those made last season.

The Western Stone Co. controls several valuable quarries of stone, admirably adapted for crushing and their quarries as distributed around the city in many places, the most valuable

of which are located at Lockport and vicinity. The firm says business has been exceptionally good during the season so far and they expect it will continue during this and the coming year. The finance committee of the Sanitary District is considering the proposal of the John M. Ewen Co. to crush and market the stone in the spoils bank of the drainage canal, at a price not to exceed 55 cents a cubic yard. The company submitted three propositions, all of which are on a percentage basis. It is estimated that there are 18,000,000 cubic yards of rock and that the Sanitary District would net a profit therefrom of \$9,000,000.00.

The Builders Material Co., with their main office in the Chamber of Commerce Building, have fourteen different yards located in various sections of the city and at these yards the men engaged therein are kept constantly busy in sending out building supplies. A member of the firm reported the condition of business as exceedingly good and fresh materials are coming in all the time about as fast as they go out. Prospects are good they say for at least another year, as they have many contracts on hand which will carry them up to the year 1908. Two or three other firms engaged in the same business were visited at their offices but most of them were too busy at their work to take the time to give out the information required.

The Chicago Brick Co. have capacious yards, 39th Street and Western Avenue, and at 138th Street and Stony Island Avenue, were never before so busy as they are at this time. They manufacture what they claim to be an especially enduring brick, and the price of their brick is placed at six dollars per thousand, while the brick manufactured by other companies is quoted at five dollars per thousand and some yards even quote brick at a less price. When called upon at their office in Chamber of Commerce, a member of the firm said they had in their employ, at their yards, a full force of men and work was being pushed at its utmost.

The Lake Shore Sand and Gravel Co. report business as exceedingly active both in gravel and sand. The firm occupies a fine suite of offices in the Chamber of Commerce building, and everyone employed therein seemed to be actively engaged. A member of the firm said that both the gravel and sand business had been flourishing this season as it has never done before.

The Richardson Sand Co., besides sand, also deal extensively in gravel. They have an office in the Chamber of Commerce and say that the demand for both sand and gravel this season has been sufficient to keep them fairly busy.

The American Sand and Gravel Co., 907 Chamber of Commerce, have seven different yards contiguous to this city, from which they furnish sand and gravel to a very large trade. They say business has been fairly good throughout the season thus far, and all their large force of hands are kept fully busy. The season thus far they say, has been a good one for their business, and the demands made upon them for both articles have been quite large.

The Chicago Gravel Co., 1400 Fisher Building, of which Mr. Renwick is the business manager, report business this season the largest they have ever done in the same space of time. Although they have, since the opening of the season, largely increased their facilities at the Hammond, Ind. and other plants which they own in that vicinity, are still pushed night and day, working seven days a week to fill all the demands made upon them.

Mr. Renwick says that the gravel business was never better. They have several large railroads which they supply with gravel as ballast and these contracts they hold will keep them busy for some considerable time ahead. The firm has been very successful and they have acquired considerable property in Indiana localities, which they are working to their utmost capacity. The firm is exceedingly well pleased with the business of the season and say that prospects ahead are of a cheering character.

The Stearns Lime and Stone Co., 165 E. Randolph street, are engaged extensively in the lime and crushed stone business. Mr. H. M. Boice reports business fairly good in both the lime and crushed stone. The firm has a reputation of furnishing a superior quality of lime.

Mr. Boice says that lime is selling at eighty cents, while others quote the price at eighty-five and some say ninety cents, with a discount. Mr. Boice said that crushed stone is sold at \$1.65 per yard delivered by teams.

The Wisconsin Lime and Cement Co., office in Chamber of Commerce, have been branching out

and now have seven or eight yards in convenient localities, report business good and prices generally satisfactory; they are having a good demand for their lime, but the writer was unable to secure the price, it is probably somewhere between eighty or ninety cents, and with good lime selling in the city at the lower price it is not very likely to realize the upper price to any extent. Wisconsin lime has given satisfaction to builders and the firm has made good progress since its establishment here.

F. E. Brown & Co., 1007 Chamber of Commerce, are engaged in the concrete business and report business exceptionally good. Mr. Brown says that the concrete business has grown during the past year beyond all expectations and that its uses are becoming more extensive every week.

Meacham & Wright Co., 138 Washington Street, are dealers in improved Utica Hydraulic Cement and Lehigh Portland Cement.

The firm says their business has been exceptionally good this season, and is likely to continue until the cold weather sets in.

The Powell Bros. have an office in the Chamber of Commerce. They have been engaged in the cement and paving business for several years. They report business excellent, and say they are fully satisfied with the business in their line as it exists at present.

The Wolverine Portland Cement Co., have offices at 902 Chamber of Commerce. Mr. C. H. Wood, of the firm, reports business very good and the demand for the Coldwater product shows an increasing business. Mr. Wood says that where ever he goes he finds the demand for cement and concrete constantly enlarging. The business of the firm this year so far has exceeded their expectations. He thinks that prospects are good for an enlarged business for some time to come, at least until the year 1908.

Mr. George C. Marsh, president of the Contractors Supply and Equipment Co., fifth floor of the old Colony building, reports the business of his firm as being in most excellent shape and has been constantly increasing since the opening of the present season. Orders for concrete mixers from all over the west have come in rapidly and the firm is pushed to its utmost to fill them promptly. Mr. Marsh says business has exceeded all his expectations and that it requires steady work to fill the orders as fast as they are received. Their factory on the west side is running night and day and prospects are exceedingly good for a rushing time until winter season sets in.

MEMPHIS AND THE SOUTHWEST.

MEMPHIS, TENN., June 20.—The summer of 1906 looks much better for the trade in Memphis than it did last summer. The contractors are busy now and have a great deal of work that will keep them engaged for the remainder of the summer and into the fall and winter. Within the next seventy-five days work will probably commence on the million dollar court house to be built here. Within the next two or three days work on the six story annex to the Hotel Gayosa will be under way. A number of warehouses and storehouses are going up about the city and not a few churches and schools. The demand for brick, lime, cement, etc., is very large and the price list rules quite firm.

The Cubbins Lime and Cement Co., who handle in a wholesale way, lime, cement, sewer pipe, fire and granite brick, hard wall plaster, etc., report that their summer trade is most satisfactory. Their warehouse and office is in the north part of the city along Brinkley Avenue and the Louisville and Nashville R. R.

The Fischer Lime and Cement Co., at Adams and High streets, have been closing up some large summer cement contracts and they anticipate a good, live summer for Memphis.

Architect, L. C. DeVan, has completed plans for the erection of the Orthodox Jewish Temple on Market Square. The structure will be two stories in height, or artificial white granite after the Russian design and will cost upwards of \$20,000.00. It is intended to have the same completed by October 1.

The Memphis Hydraulic Stone Co. has increased their capital stock from \$8,000.00 to \$50,000.00. The directors of this company are: Steve M. Wright, of the Wright Lime and Cement Co.; I. F. Peters, of the Industrial League; Sam Friendlander, of the Crescent Savings Bank; George E. Goff, building contractor, and John Griffin, a well known stave and barrel man. The plant of the company is situated on Dunlap street near the Southern Railway. They propose

to enlarge the plant with the increase of capital stock and carry on a business on a much larger scale than heretofore.

The Mississippi Valley Manufacturers' Association has been recently launched at a meeting held in this city. Delegates were present representing seven Mississippi valley and adjacent states. The assembly was called to order by P. M. Huckle, of the Genevieve Lime Co., of St. Louis. Mr. Huckle was elected president; J. Martin, of Chattanooga was made vice president; and J. Eichel, of Indianapolis, secretary and treasurer. The states represented were: Tennessee, Arkansas, Texas, Missouri, Illinois, Indiana and Alabama. Two delegates from each state were named as committees on membership. The meeting adjourned subject to the call of the president and the regular sessions are to be held at Memphis.

MISSISSIPPI.

The Summit Brick and Manufacturing Co., has been organized at Summit, Miss., with a capital stock of \$25,000.00. The following officers were elected: Dr. W. W. Moore, president, J. T. Covington, first vice president, W. A. Schilling, second vice president and general manager, S. M. Covington, secretary, and H. T. Gracey, treasurer. Lucien Eugene Schilling, of Magnolia, had charge of the organization of the enterprise.

The Clermont Brick and Tile Co. has been organized in Mississippi with offices at Biloxi and Clermont City. The capital stock is \$50,000.00, of which \$20,000.00 is paid in. The business of the company is to manufacture brick, tile and other products of the earth. The capital is largely from the Gulf coast, but there are a number of stock holders who are residents of New Orleans.

The incorporators are: George H. Combel, Henry Schneller, H. H. West, O. E. Thompson, J. A. Broadus and Z. T. Champlin. The company has recently purchased all the belongings of the Combel Brick and Tile Co., of Clermont City, and will install machinery that will insure a capacity of 20,000 bricks for a start. If the project is a success, machinery will be purchased that will increase the output to not less than 100,000 bricks per day.

The Louisville & Nashville R. R. will install a switch at the plant. The deposit of clay at Clermont City is said to produce the finest brick that can be made along the coast.

KANSAS.

Work is progressing rapidly on the Blue Rapids Gypsum Co.'s gypsum mill near Blue Rapids, in Marshall County, Kansas. Supt. Hutchinson, who lives in Marysville, said that it would probably be July or August before the mill will be ready for business. When completed the mill will be one of the largest gypsum mills in the state. It covers a ground space of 50 x 256 feet and is two stories high. When completed the Blue Rapids Co.'s mill will be the fourth plaster mill located at Blue Rapids and the demand for Blue Rapids plaster is such that the three mills already in operation are kept running day and night to supply the demand.

Beard Bros. are erecting a cement plant at Valley Center, Kansas, and expect to have the same in operation in the near future.

At Pawnee Rock, Kansas, Fred Keeley has purchased the cement block factory of C. W. Lawhorn.

The Independence Portland Cement Co., at Table Mound, near that town, will be running right along this month and this speaks a good deal for the system and efficiency of the Hunt Engineering Co. The plant is capitalized at two million five hundred thousand dollars and it required an actual outlay of one million dollars for construction alone.

Switzer Bros. have sold the Augusta stone quarries at Augusta, Kansas, to S. B. Ziegler, who will push the business of the quarries to the limit. Mr. Ziegler is from Junction City and has been in the quarry business for fifteen years.

The Kansas Portland Cement Co. is going into the north Iola field for gas. W. S. Woodard, of Gas City, has begun work with a force of twenty-five men to run a line from the works a distance of six miles to the north gas field out from Iola.

At Independence, Kansas, a company has been organized to manufacture concrete blocks for foundation and building purposes and to do all classes of cement work. They have purchased a place for their operations on 20th street, Independence. The officers are: N. S. Potter Jr., president; A. R. Jones, secretary; H. W. Jones, treasurer, and T. L. Shaffer, superintendent.

The installing of the Yoke Vitrified Brick Co. at Coffeyville, Kansas, has been assured and the charter granted. W. W. Reehl, of Bucyrus, Ohio, and H. B. Wiley, of Chanute, have returned to their homes after completing minor details. The company incorporates at \$125,000.00, and will have a capacity of 250,000, although at the opening of the plant, the capacity will only reach one half of this figure. The machinery will include a 500 horse power engine with boilers necessary and two augers which practically insure that the plant will be double the size of any in the community. Fifty kilns will be erected and it is the intention of the company to begin operations by fall and if the present plans are carried out the first wheel will be turned about October 1.

The company owns 34 acres of ground, which is located south of the water works plant, and a new switch will connect the plant to the main plant of the Missouri Pacific. The charter members of the Yoke Vitrified Brick Co. are Geo. Wilcox, John E. Bird, M. D. Landers and A. J. Yoke, of Coffeyville.

W. J. Smith has started a cement block factory at Cimarron, Kansas. His blocks are 16 inches long, 8 inches wide and 8 inches high. Each block has two air chambers, 4x5 in. square.

Criss & Fowler are establishing a cement block factory at Scott City, Kansas, near the Missouri Pacific depot.

LOUISVILLE, KY.

LOUISVILLE, Ky., June 19.—Reports from the varied interests covering cement, concrete, lime and other materials used in construction work, continue to be most gratifying as the orders are increasing more rapidly than the operators can conveniently handle them. There are several large reinforced concrete jobs under way here, which have been mentioned in previous issues of *Rock Products*, all of which are making considerable progress.

There is one serious handicap, however, to operations here, which is no doubt felt in other sections as well, and that is in securing a sufficient amount of competent labor. The price for daily labor has been advanced almost 25 per cent recently, and it is still difficult with this increase to secure sufficient help to take care of the contracts already on hand. This is getting to be a very serious question and one which might eventually retard building operations to a great extent.

Another feature in connection with conditions here, is the continued increase in the price of all kinds of building material. This has had an effect upon operations and a number of parties who had contemplated making improvements have deferred the matter, owing to the combined difficulties of scarce labor and high priced material. It is to be hoped that these two objectionable features can be modified to some extent, or otherwise they will work disastrously to building operations during the remainder of this season.

At the office of the National Concrete Construction Co. Mr. J. B. Oligschlaeger reported that they had just as much work on hand as they could handle in concrete. Among their orders is that of the Lincoln Savings Bank building, and an immense tank for the Louisville railway Co., and other orders of more or less magnitude, which will keep them occupied to their fullest capacity. In his opinion he thought that the prospects for continued prosperity for concrete in this section was most flattering.

The Southern Roofing and Paving Co., through Mr. C. A. Monks said that they had an ample amount of contracts, both in concrete work and roofing, and keep nine crews of men steadily employed. They are constructing a five-story reinforced concrete flat building at Second and Gray streets, which will be completed in a few month's time. They have other large contracts, and Mr. Monks said that the great difficulty with them was in securing enough labor to fill their obligations. This has become a very serious question with him of late, and although the wages of laborers have advanced recently they still find it difficult to obtain enough workmen to properly handle their contracts. They have just installed an eleven hundred dollar Municipal Engineering and Contracting Co.'s Cube power concrete mixer, which will greatly assist them in their concrete operations.

The Fitch-Troxell Co. are working an extra large force of men on a number of large contracts for concrete work in various parts of the city.

Thus far this season they have enjoyed the largest business ever known in concrete and are at the present time contemplating the installation of a large and modern outfit for the manufacture of concrete work of various kinds. They believe that the present year will be the best in the history of concrete ever known, and are very much gratified at the amount of business they have on hand at the present time.

The National Roofing and Supply Co. say that they have plenty of work, both in concrete and roofing lines. While they have no particularly large contracts on hand now, they have sufficient work to keep a number of crews busily engaged. The roofing branch of the business is in a prosperous condition and has improved considerably during the past month.

At the office of the Falls City Artificial Stone Co., and the Concrete Building Block Co. reports were most satisfactory. They are erecting an immense concrete block house in the eastern part of the city. They have also a large number of contracts for concrete work of various kinds and they are busier than they have been at any time during the present year; consequently they are much pleased over future prospects and expect to be busy during the remainder of the season.

J. B. Speed & Co. still find a demand for their Portland cement in excess of their supply. Mr. Gray said it was taxing them to meet orders for their latest commodity. He was much gratified, however, that their Portland cement was meeting with such universal favor. The demand for natural cement is larger than that of last year, but it seems that the use of Portland cement is somewhat in the nature of a fad. Natural cement would answer just as well or even better and at a considerable saving in cost to the contractor or engineer, who frequently uses Portland cement in preference to the natural. The demand for lime has held up remarkably well, particularly the hydrated lime, which is steadily increasing in popularity. Mr. Gray said it was apparent now that people were being educated to use hydrated lime and no doubt its popularity would increase as time went on.

At the office of the Western Cement Co. secretary Courtney said that they were enjoying a nice trade on natural cement and were very well pleased with conditions just now. He had noted an increased demand in the past few months and did not doubt but that the present year's sales would be largely in excess over last year's. The people need to be enlightened on the value of natural cement, but this will take time of course, as there is a large number of users of cement at the present time, who know very little or nothing as to the actual value of either Portland cement or natural cement.

The Kosmos Portland Cement Co., with offices in the Todd Building, are still enjoying a good demand for their well known Kosmos brand. This cement has been used in a number of large jobs lately and has proved its value as a building material of a high class.

Sam'l F. Troxell & Co., well known roofing contractors, report that conditions with them have been rather dull. They have long maintained that unless there is a fair profit in the contract it is useless to accept same, and as there is considerable price cutting among some of the roofing contractors here, they have not made any great endeavors to secure business.

The Kentucky Wall Plaster Co., manufacturers of hard wall plaster of various kinds, say that they are enjoying a nice business, though they are not particularly rushed. They look for a large increase in out of town orders within a short time and find their local demand quite large just now. They are operating their Hoosier plant at Jeffersonville, Ind., about half time, while the local plant is being operated with full force and regular time.

The Southern Brick and Tile Co., through the manager, Mr. T. Bishop, says that the demand for both brick and tile is very satisfactory and has been for several months. Their several large plants are in operation and the outlook is encouraging.

The Louisville Fire Brick Works, whose extensive operations are located at Highland Park, Ky., have just completed two additional kilns which will greatly increase their output. Business with them continues most favorable and their sales show a steady increase.

The sand concerns in this city are enjoying a large demand for river and pit sand and gravel, and on account of a large amount of building and street work under way this summer are kept operating to their fullest capacity.

THE CRESCENT CITY.

NEW ORLEANS, La., June 19.—Building operations of all kinds are going forward very rapidly. Scarcely a block can be passed in the entire city where there are not new buildings going up. Sometimes it is a modest cottage that will cost only a few hundred dollars and again it is an iron or steel and concrete and other fire proof material that is being massed story upon story, so high that the old timers shake their heads and give their shoulders a shrug of disapproval that is more expressive than words.

All this building activity make the market for sand, lime, cement, gravel, shells, brick and terra cotta very active. The published statement that Edison has invented a cement or concrete that made it possible to build a two story house, all of concrete even to the stairway, has set a number of people to thinking and many letters have gone forth inquiring how such things can be and if it is a fact and can be practically carried out here, there will be more building than ever and more elaborate plans will be called for.

Concrete is daily growing in favor. One of the most ornamental structures that has been erected yet, is the pavillion at the city park. The architects are Andre & Bendernagle. Mr. Andre especially favors concrete, because he sees in it vast possibilities of constructing buildings in which beauty and utility may be combined with artistic effects, and yet kept within the bounds of moderate figures.

This pavillion is intended for a shelter during stormy weather. It measures 35 x 635 feet and is in the Roman Corinthian style of architecture. The plans and specifications were so arranged that bids could be made on both wood and concrete. The bid for the concrete was \$11,820.00 and for all wood in cypress was \$11,000.00. The concrete being so little more than even the everlasting cypress, concrete was accepted.

The foundations, also the retaining walls of the several terraces that lead to the shelter from the lake so that boating parties may seek shelter in the pavillion are of reinforced concrete. The upper part of the shelter is made of cast concrete blocks, including the ornamental caps of the columns and ornamental corinthian canopy and balcony above the roof.

Mr. Pietro Ghiboni, the talented sculptor, has been given the contract for the cast concrete blocks and he is doing this work with the utmost care, not only in regard to material and workmanship, but the architectural lines and details.

The foundations and the floors of the Tilton Memorial library of Tulane University are of reinforced concrete. This work is being done by the Hennebique company and is in charge of Mr. J. J. Hennebique, the son of the inventor of reinforced concrete. The floors are being designed to carry three tiers of book stacks with floors between bearing superinduced loads of 300 pounds to the square foot.

The Stock Exchange is erecting a structure between two old buildings. The party walls were retained to form part of the exchange, but the question was the foundation of the front which is of marble and in some places three feet thick. The problem was a difficult one as the front weighs 450,000 pounds and the soil of New Orleans will not carry a greater load than 1200 pounds to the square foot and it was not practical there to use pine piling. Therefore a foundation of nineteen square feet of reinforced concrete was designed to carry the marble front. The weight is not evenly divided, but concentrated on two points of the foundation which have been well taken care of by the concrete foundation as is evidenced by the fact that now the building is practically completed and all the weight on, it is impossible to find any indication of settlement.

The foundation of the Pure Milk company's building is to be of reinforced concrete, also of a new public school that is to be two stories and the basement.

The contract has been let for the building of H. T. Lawler & Sons' flouring mill on North Peters and Louise Streets, to the Jefferson Construction Co., of Birmingham, Ala. The upper structure is to be of reinforced concrete. The foundation was put in some time ago of Raymond concrete piles. They are twenty feet deep and are twenty inches at the top and six inches at the bottom. The building is to be five stories and a monitor, including the flour mill, power plant and warehouse complete. All the outside walls and piers are to be of concrete reinforced with plain steel rods. The structure is to be fire proof with metal frames and wire glass windows and automatic fire door openings.

Quarries.

The National Quarry Owners' Association.

Meets Semi-Annually.

D. McL. McKay, Chicago, Ill. President
Chas. A. Pfeiffer, St. Joseph, Mo. First Vice President
E. T. Faucher, Albion, N. Y. Second Vice President
Sol. M. Wolf, Bellevue, Ohio Third Vice President
E. H. Delebaugh, Louisville, Ky. Secretary-Treasurer

Official Organ, ROCK PRODUCTS.

The Importance of Up-to-Date Equipment.

The improvements in the line of machinery for the rock crusher within the last two or three years is the best evidence of the crudeness of the crusher plant of that period. Necessity is just as much the mother of the first cause of invention now as it ever was and the fact that so many improvements have been successfully exploited and introduced goes to show that there was a crying need for such improvements before they were even suggested.

Crushed stone of the macadam size is now being sold cheaper than it ever was and yet there is a larger percentage of profit to the crusher man. He has simply increased the volume of his output to such an extent that with lower prices he makes up in the volume of his sales a great deal more than the reduced price per unit of measure. The crusher itself, whether it be the rotary, gyrating, spool-like, revolving spindle or the oscillating jaw, had practically reached the limit of their effectiveness before such machines were sent for exhibit to the World's Fair at St. Louis, and little or no improvement of any far reaching effect has been introduced since that time.

Just where the improvements have been inaugurated is in the arrangement of the crusher plant. The automatic conveyors, which get the quarried rock fed above the crusher, the screens which separate the material as it comes from the crusher and the arrangement of the bins for receiving the separated and classified products into separated receptacles with the arrangement for loading them into the cars, have been the points of attack for the inventor and the places where he has achieved the later and most profitable improvements.

The automatic conveyor, consisting of quarry cars or endless belt contrivances have been improved to a wonderful extent in many cases representing a saving in the economies which they produce a sum of money large enough to represent the difference between a profitable and unprofitable business. There are still a number of crusher plants plodding along with an obsolete equipment where they wonder what has gone with the profits that were once made at the plant, when the solution is simple and is constantly offered through the advertising pages of the crusher man's official organ, which is first, last and all the time—Rock Products.

If you have cause for complaint and your crusher is not producing the quantity of crusher product to enable you to make a good round profit in these prosperous times, it is up to you to study the new inventions which the machinery builders are offering to you for your attention. Equipment is the all important thing with the crusher man to-day. If your equipment is right, you are doing a profitable business and if it is not right, you are sure carrying the banner at the tail end of the procession of progress and prosperity, which now surrounds all your brethren in the industry.

The Wampum Crushed Limestone Co., Wampum, Penn., has been capitalized at \$50,000.00 and a plant erected for the purpose of building and operating a crusher. The directors are E. J. Job, Niles, O.; Reese L. Davis and Edw. Ketterer of Wampum, Penn.

The Transportation of Crushed Stone.

We very seldom visit a crusher plant that we do not hear of some reference to the limit of shipping facilities. Sometimes it is impossible to get cars unless the railroad has a ballast contract and need the ballast very badly. If this is the case, there is no difficulty and the cars are shoved under the bins faster than the crusher can deliver the rocks. But, where crusher rock is sold for concrete purposes or for road building, the question of distance becomes a very important factor, so that it is conceded that it is impracticable to ship crushed rock over anything besides a very limited distance, and we have come to consider the crusher as a purely local proposition.

It is an unfortunate fact that in the development of our railroad systems, we have let every other means of transportation sink into insignificance and have practically abandoned all the canals that cost our fathers so much to build as well as the navigable rivers that reach so many important markets that would be open for heavy commodities at a minimum of expenditure and with very little limitations as to distance for crushed stone transported by barges or canal boats is a practical proposition which has been lost sight of in these days of hurry and bustle to carry everything over the steel rails with inadequate motive power and altogether too flimsy rolling stock.

The cost of a barge is little more than that of a car, while, a barge costing as much as a car would carry fully six times as much crushed stone and it would be easy to construct them in such a manner that they could be loaded and unloaded with facility without the display of any great amount of ingenuity.

The crusher man who has his plant located so he can deliver either to railroad cars or to barges for transportation by canal or river, has a factor in his business which should contribute to him a much wider market than the man who is compelled to depend upon the railroad with its over crowded car service for the accommodation of his operators.

Markets like St. Louis, Memphis, Cairo, Evansville, Louisville, Cincinnati and hundreds more of lesser importance, could be reached by barge delivery from crusher plants five hundred miles away, almost as cheaply as the same product could be delivered within fifty or sixty miles by rail. A number of old canals are still open which could be utilized to great advantage by the crusher men in delivering his product to distant points, if a little ingenuity and enterprise were exercised in that direction.

The question of transportation is the whole thing with 90 per cent of the crusher investment at the present time, and the only solution to the difficulty that we can find is to systematically use and improve the water transportation of this country that is available, for, by the use of water transportation, the weight of the article transported cuts no figure whatever. The loading of a barge means merely the displacement of so much water to float it and outside of the trivial expense for caulking, there is no appropriation necessary for the maintenance of the right of way, which is the most important factor and item of expense with all railroad operations. These remarks have been suggested by noticing one or two crusher plants which have been located with special reference to water transportation, and we have been told that it is the cheapest and most profitable proposition in connection with such plants.

A Crusher Without a Quarry.

MENOMINEE, MICH., June 9.—Robt. Rick, who has the only stone crushing plant near enough to this city to make it available for the construction of streets, conducts a unique plant with regard to his source of supplies for he runs a crusher without a quarry. He calls his plant "Robert Rick's hometown stone crushing plant," and it is a very busy institution and not only profitable to the ingenious operator, but to all the farmers residing within a radius of several miles to this location.

In times past the region in which Mr. Rick's stone crusher is located was quite generally covered with boulders of various sizes, which have always been a thorn in the side for the farmers who have found a great deal of labor and expense in removing them. The work of removing boulders has to be done every season, as the frost of each succeeding winter forces a new crop of

stones to the surface of the earth to take the places of those that have been picked up and hauled away the year before. Mr. Rick has created an industry by the purchase of these boulders, which are now carefully gathered and hauled to the crusher, where they are sold at good prices. In addition to the removal of the hitherto worthless boulders and the consequent clearing of the farms in the neighborhood, these same boulders have been converted by Mr. Rick into an important source of profit to the farmers, and the fact that they find a ready sale in the shape of crushed rock has stimulated the industry throughout the surrounding country.

Proposed Development of Soapstone Quarries

LITTLE ROCK, ARK., June 7.—Prof. Robt. Kunstman is at the head of a movement to organize a company for the purpose of exploiting the soapstone deposits in Arkansas, which are located between Little Rock and Hot Springs. In a recent interview, Prof. Kunstman said: "Soapstone or Steatite (our German friends call it Speckstein) is one of the most useful non-metallic minerals that constitute the crust of our earth. The chemical composition of Steatite is principally magnesia and silica, two of the most durable substances known, when exposed to the atmosphere or fire. The designation soapstone is merely indicating that peculiar soft or greasy feeling we experience when handling it. The rocks are of sedimentary origin, they are nearly all horizontal beds which have been but slightly disturbed since their neptunic deposition. The sequence of such depositions has been learned and ascertained from general sections and tunnelling.

"Steatite is a material for fire-bricks, furnace blocks, arch and bridge ties with sharp edges, perfect shapes, close joints and dovetailed together, free from expansion and contraction and preserving the integrity of the furnace walls, has no superior in the market."

"Manufactured into pressed brick for buildings this material has no equal, for it leaves a smooth, polished face and sharp edge and can be manufactured in all colors from cream to black. When manufactured into enameled brick it is a great success, having the suction necessary to retain the enamel. It is equal to any material known requiring but little enamel to cover surfaces.

"Pressed into molds and cast into any form as terra cotta or other architectural work, there are but few materials which can be worked to such advantage. Thus the soapstone remaining perfectly white after being worked in the finest wares and exposed to the greatest heat, enduring the highest temperature without fusing at the same time acquiring a semi-vitreous texture and peculiar translucency and toughness when enameled retaining a beautiful gloss in its own colors, giving a handsome finish to every article it is moulded into, remaining strong, lasting and free from checks, needs only skilled labor and suitable machinery to establish a vast industry giving employment to hundreds.

"Soapstone from a commercial point of view is in its infancy. Only within the past few years have the discoveries been made where the use of soapstone is indispensable, particularly in electrical work, sanitary fixtures and appliances, it being valuable as a non-conductor, also for its non-absorption for chemical laboratories and fixtures where acid receptacles are kept.

"Those who have been able to find the right quality of soapstone, as there is a limited quantity in this country that can be adapted for the several purposes just now enumerated, have been liberally rewarded by immense returns of their investment. Little Rock may be proud of the opportunity to receive a plant that can be placed in the front ranks of industrial enterprises which so far were only domiciled in New Hampshire or Virginia exclusively."

Ready to Start.

The Queenston Quarry Co., at Queenston, right across on the Canadian side from Niagara Falls, N. Y., have about completed their new stone crushing plant which has been located on the slope of Queenston Mountain near the big cement mill and right on the line of the Niagara Division of the Michigan Central Railroad. They intend to grade their stone according to several degrees of hardness. The hardest grade will be supplied to municipalities for macadamizing streets and the balance of the stone will be used for ballast and for the various requirements of concrete work.

The Valuable Limestone of Michigan.

ALPENA, MICH., June 1.—Geo. F. Sherman, New-castle, Penn., has taken a number of stone quarry options in the neighborhood of this town, extending as far as Cook's Point, in the interest of Geo. W. Johnson & Co., of New Castle, Penn., who is said to be among the largest producers and dealers of crushed limestone in the world. Samples of the Alpena stone have already been tested in the laboratories of the Johnson concern and it is practically now an assured fact that a very large crushing establishment will be built at once, including large docket accommodations for the boats and barges which will be employed to convey the crushed stone across the Lakes.

All the preliminary work of locating the plant has been practically completed. Mr. Sherman, who is an expert, recently remarked that the limestone in this locality is of inestimable value and that it is in inexhaustible supply. With active development of the stone resources here, in a few years it would become noted for the manufacture of everything in which limestone enters as a part of the process.

Very Big Plant in New York State.

GOVERNEUR, N. Y., May 23.—Cleveland parties have just completed a very large crusher plant which is under the local management of Mr. Jas. Murphy, and will be used for the purpose of getting out crushed rock to be used in fluxing in the manufacture of iron. It is said to be one of the largest rock crushing plants in the state of New York and the storage bins have been arranged in such a way that it is only a matter of a few minutes to load the cars by gravity so as to cause no delay. Hundreds of cars could be loaded in a single day by the arrangement which they have installed. A large force of men has already been put to work, although the estimated capacity of the plant has not yet been reached.

Crusher Changes Hands.

ESCANABA, MICH., June 11.—John Bichler has purchased the Gross stone quarry and crushing plant and now holds the only available building and crushing stone supply adjacent to Escanaba. The purchase included the title to eight acres of quarry land which is already partly worked and Mr. Bichler states that he will start the crusher just as soon as a few trivial repairs are completed.

Penal Crushing Plant Proposed.

Horatio S. Earle, Michigan State Highway Commissioner, proposes to establish a prison crushing plant, near Eagle River, to supply crushed Lake Superior trap rock to the townships and counties of the state for road making purposes. He says that the trap rock of the Lake Superior region is far superior to any other stone in the world for macadam purposes, and that he believes it can be produced and furnished to the state much cheaper than can the low grade limestones of the lower peninsula, and that in consideration of this fact, the state should use not less than 1,500,000 yards of crushed trap rock in road building alone.

Crusher Plant for Jacksonville.

JACKSONVILLE, FLA., June 15.—Geo. R. Foster and Frederick W. Long will have their new rock crushing plant in operation within a few days. The machinery is already on the ground and the contract for the necessary buildings has already been let. The plant will have a capacity between five and six car loads of rock per day, and the concern will make a specialty of crushing rock for street paving purposes, for concrete work and for roofing. The growth of the demand for crushed rock by concrete contractors in and around this city, was the cause which led to the establishment of a rock crushing plant. The plant has been located conveniently for delivering crushed rock to wagons for all parts of the city as well as by rail.

Rushing Work on New Plant.

DUNBAR, PA., May 28.—Work is now well under way at the new plant of the Dunbar Fire Brick Co., replacing the one destroyed by fire a few months ago. The outlook for the company's business is very fine, and consequently the work of rebuilding is being rushed. A number of improvements are being made and the force will be increased.

Clay.

A Growing Clay Industry.

The manufacture of drainage tile is an industry which is steadily gaining in importance. Since the discovery and use of drainage tile, farming operations have very largely increased, and much waste land has been made fertile and consequently profitable. The value of drainage tile can be best appreciated by the farmer, and seeing its actual results, he has not been slow to take advantage of its adoption.

The plants devoted to the manufacture of this clay product have been forced to increase their output, until now this industry alone is one of magnitude, and the location and number of tile plants are quite general. Conditions point to a steady increase in the demand and the future is necessarily bright for these operators.

An Organization Only in Name.

The appointment of a receiver for the Walker Mining and Manufacturing Co., of Canton, Ohio, is asked in a petition filed Saturday morning by attorneys J. J. Grant and Charles Krichbaum, counsel for Jacob E. Fralley, who says he is a stockholder in the concern. Fralley makes several charges against J. B. Weigel, president, and Frank M. Levens, secretary and treasurer of the company, all of which are allegations that the company has given individual benefits to the two officers, to the detriment of the stockholders. He states the concern was incorporated under the laws of South Dakota with a capital stock of \$500,000.00, divided into shares of \$1.00 each. The home office is in Pierce, Stark county, where a plant was to have been built on the George Walker farm for the manufacture of brick and other clay products. Stock in the concern was sold to the general public beginning January 1, 1906. The plaintiff says he bought 5,000 shares, after Weigel had transferred the Walker property, near Pierce, to the company for a consideration of one-half of the capital stock. It is stated that stockholders cannot get access to the stock books, and that no improvements have been made on the land, the lease of which runs out in the latter part of 1906.

Besides a receiver, plaintiff asks for an accounting of moneys, inspection of books and that the defendants be enjoined from disposing of any more of the company's stock.

The above is a clipping from THE CANTON (O.) EVENING REPOSITORY, of June 9. Some few months since, the CLAY RECORD published a report of the incorporation of the above company, stating that Mr. F. N. Levens, of the Western Reserve Guaranty Co., Cleveland, Ohio, had secured articles of incorporation under the laws of South Dakota, capital being \$500,000.00. While these papers were taken out by Mr. Levens, it is understood that J. B. Weigel, of Cleveland, Ohio, was the real promotor and manager of the deal. Mr. Weigel is now in the county jail at Canton, Ohio, charged with securing money under false pretenses, with bond placed at one thousand dollars, which he has not been able to furnish. Should he be able to secure this bond, we understand three other charges are awaiting him, so that his chances for escaping punishment are very slim.

It was averred in the article referred to, that a noted metallurgist had made an extensive examination of the properties of the clay and pronounced it second to none in the United States. They then go on to say that the brick to be manufactured will be the world famed Sparta Brick. The world famed Sparta Brick is manufactured by the Federal Clay Product Co., of Mineral City, Ohio, at a plant located adjacent to the property on which Mr. Weigel proposed putting up his factory, which property does not have the necessary clay to make the real Sparta Brick. The Federal people practically control all territory underlaid with the grade of clay that is necessary to make these brick. It is of local deposit and is separated from the proposed site

of the Weigel people by quite a ravine, or break in the land, the clay cropping out high on the hill; so we are inclined to believe that Sparta Brick will continue to be manufactured by the Federal Clay Product Co. only.

Mr. Weigel was certainly wide awake and had a proposition that was bound to win, when he stated to the purchaser of his stock that he had a property that would produce Sparta Brick. They are, we believe, the most beautiful face brick on the market. Not beautiful only when new, but always; they are impervious; no mixture used to produce their beautiful shades and can do nothing else but remain clean and beautiful.

We are very sorry for the parties duped, but believe they can consider themselves fortunate in having the prospect nipped in the bud, for it is 99 to one that the plant would not have been a successful one. The plant now owned by the Federal people was never a success until it fell in the hands of the present management. It requires both man and material to make a success of the face brick business.

Will Try Americans Again.

Consul A. G. Seyfert reports that during the summer of 1905 the municipality of Stratford, Canada, expended \$100,000.00 in permanent street improvements, in paving with asphalt blocks and vitrified bricks. It is contemplated to expend \$30,000.00 more the present summer. Last year's contract was done by an American contractor, and with such satisfaction that the present contract is again open to American bidders.

Big Orders Continually Received.

The Federal Clay Product Co., of Mineral City, O., is certainly pushing to the front. We understand they have orders on their books for considerable in excess of a million face brick and are figuring on some very large orders which they undoubtedly will land. Sparta Brick have become so well known and widely distributed throughout the country and in the best of buildings, that it is scarcely necessary to do soliciting, the business comes of its own accord. The Federal people have but recently rearranged their dies and now each and every brick shows the name and address of the manufacturer, quite a novel idea. Their fire brick plant is running to its full capacity and will be enlarged in the near future to meet the demand for their high grade material. Their Federal brick is now known as one of the best fire brick on the market.

Contemplate Erecting Tile Plant.

SPRINGFIELD, ILL., May 31.—It is more than a probability that the National Tile Co., of Terre Haute, Ind., will locate a plant in this city. Representatives of the company recently visited here and after a careful examination of the shale and clay in this vicinity, were highly pleased with the same. It is said that the company will begin the erection of the plant in the near future, and that \$50,000.00 will be expended on the same.

The William G. Doyle Co., of Boston, Mass., has been organized with a capital stock of \$500,000.00. The company will manufacture and deal in sewer pipe, fire brick and flue linings. The officers are: President, Wm. G. Doyle; treasurer and clerk, A. D. Page.

The Morgan Brick Co. has been incorporated at Dover, Del., with a capital stock of \$100,000.00. The company will manufacture fire-brick, tile, etc. The incorporators are all of Morristown, Pa.

The Taunton Stove Lining Co., of Taunton, N. J., has been organized to manufacture fire brick, stove linings, etc. The capital stock is \$25,000.00. The officers are: C. S. Parker, president; J. W. Parker, treasurer, both of Taunton.

The plant of the Kiesel Fire Brick Co., of Rochester, N. H., was destroyed by fire on May 20. The loss was \$20,000.00, with \$6,000.00 insurance.

The Columbus and Hocking Clay and Brick Manufacturing Co. has been organized at Nyack, Rockland County, N. Y. The capital stock is \$500,000.00, and the directors are: L. H. Smith, A. A. Palmer and Gervase Green, of New York. The company will manufacture brick, tile, pipe, etc.

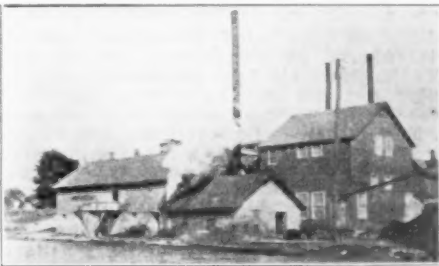
The Brown Clay Works has been organized at Fort Saratoga, N. Y. The company will manufacture pipe, piles, brick, etc. Juliet H. Brown, Henry C. Brown and J. C. Brown are the incorporators. The capital stock is \$35,000.00.

Plaster.

NEW YORK GYPSUM QUARRIES.

The Onondaga County Operations Show Increased Activity—A Branch Railroad Contemplated.

SYRACUSE, N. Y., June 15.—A representative of ROCK PRODUCTS recently took a trip through the gypsum quarries of Onondaga County located in the vicinity of Manlius and Dewitt. The National Wall Plaster Co., of which Harvey E. Dingley is president, owns twenty-five acres of gypsum quarries where active operations are being carried on and fifteen to twenty thousands of tons a year are being quarried. The rock is crushed at the mill after which it is taken to the factory located on the widewaters of the Erie canal, as shown in the photograph, where it is calcined and used in the manufacture of wall plaster. Not all of it, however, is made into wall plaster and there is a large demand for the product in its calcined state. The National Wall Plaster Co. has a large trade throughout the eastern states



PLANT OF THE NATIONAL WALL PLASTER CO., NEAR SYRACUSE, N. Y.

and has shipped these products as far as Pretoria, South Africa.

The Clifford L. Miller Co., of Brooklyn, has three kilns under construction, as shown in the photograph. It is the intention to burn the cement rock which is found on top of the gypsum making hydraulic cement of water lime. This company recently bought the Sevrance Quarries.

H. H. Lansing, whose quarry is shown in the accompanying photograph, also does a large business selling most of his gypsum to other manufacturers.

Sulphate of lime or gypsum was first discovered in Onondaga County in 1792 by William Lindsay. In 1808, a stock company was organized to quarry the product, and for many years the wall plaster business was second only to the salt business. For a while the business went into a decline, but came to the front again with the discovery of the process of making and preparing wall plaster. The gypsum is quarried by the ordinary method in vogue in soft rock quarries. Big slabs of stone are pried off with a crow bar or separated by a blast. These chunks are broken into pieces which a man can lift and hauled to the mills by teams. Here they are broken into smaller pieces by stone crushers and these pieces are afterward calcined. The gypsum in the Onondaga County quarries is from fifty to sixty-five feet in thickness and there is practically an unlimited amount of gypsum in the town of Manlius and Dewitt.

It is these beds together with those of the Adamant Plaster Co. and others to which the Lehigh Portland Cement Co., of Allentown, Pa., are considering building a branch railroad. The Lehigh Company desires to get the gypsum to mix it with rock, in which way a superior cement is made. The representatives of the company say that they would ship at least 60,000 tons a year. There

are millions of tons of gypsum in the territory through which the railroad would pass. Some of the quarrymen own their own quarries, while others possess a perpetual quarry right and do not own in fee simple.

Sackett Plaster Board.

The Sackett Plaster Board was the natural outcome of plastering operations. It was first used fifteen years ago and its growing popularity is the best evidence of its usefulness, desirability and economy. It is not an experiment but a standard article in the mason's material line, and can be found in nearly all cities in the country. It costs no more than a good grade of wooden lath and plaster and is cheaper and much more satisfactory. Less than one-half the amount of water is used in constructing walls and ceilings with this board than in plastering on wooden or metal lath, resulting in a great saving in time and reducing the warping and shrinking of timber and trim to a minimum. Sackett wall plaster will not warp, buckle or shrink. It is impossible for walls and ceilings constructed with it to fall, as the perfect adhesion between it and the plastering material makes a solid body that is securely held in place by the nails through the board. It is a practical insulation against heat and cold, as its solid, non-conducting surface renders it more efficient than where lath is used. In the latter construction a large part of the surface is used for the clinches of the plastering material, which is decidedly porous and through which air passes readily.

It is non-inflammable, and accepted as a fire retardant where underwriters and municipal building departments require slow burning construction, not only in plastered walls and ceilings, but on the under side of roof boards, between floors and on exposed wooden surfaces. Sackett plaster board is an effectual and economical covering for exposed wooden surfaces in manufacturing and commercial plants as a protection against fire. It is also adaptable for use between floors both as a fire retarder and sound deadener and in the construction of drying kilns, hot-air ducts, etc.

Owing to its non-conductive nature, it is an excellent material for insulation in refrigerating plants.

Metal Lath Forging Ahead.

Will the continued advance in the price of wooden lath, which has now reached a point beyond all reason, the manufacturers of metal lath should reap a rich harvest. The superiority of metal lath over the wooden article is so vastly superior as to admit of no comparison. This should be made clear to the prospective builder, who desires to construct fire proof buildings, and at the same time economize in the space.

The latter feature is of the greatest importance at this time. A few feet saved here and there will make a vast difference in the total space of a large structure. Metal lath is the outcome of careful study and is now being looked upon as a boon to building constructionists of the greatest magnitude.

Plaster adheres to this lath in such a way as to make it one of the practical contrivances, and one that will outlast wooden lath many times over. This, and other points are forcing themselves on the public, and it can only be a question of time when metal lath will be so generally used as to supersede the wooden article altogether.



H. H. LANSING'S GYPSUM QUARRIES, NEAR MANLIUS, N. Y.

Plastering Organization Prospering.

BUFFALO, N. Y., June 14.—Since the organization in this city some months ago of the Globe Plaster Co., great progress has been made and the business has grown rapidly. The company manufactures plaster, lime, mortar, etc., and have a capital stock of \$5,000.00. They have a nice plant operated on modern lines and their output is increasing continually. Those interested are: James E. and William C. Carroll, and Charles B. Reinhardt, all of whom are residents of this city.

Are Enjoying Successful Business.

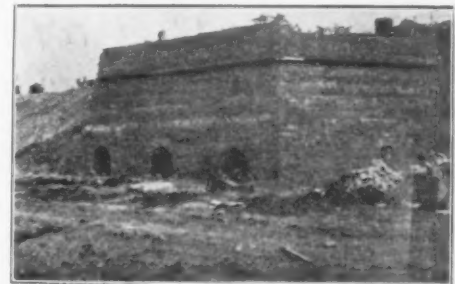
NEW ALBANY, IND., June 15.—Conditions with the New Albany Wall Plaster Co. are just as flattering as they can possibly be. Perhaps no plaster organization in this part of the country has been more successful than this one. They have always made it a point to make and sell only the best grades of wood fiber and other plaster; consequently their success is not surprising. The prospects continue to be favorable and they are well pleased over the future.

Gypsum in British Columbia.

The Kamloops, B. C. *Sentinel* calls attention to the fact that vast deposits of gypsum, gypsum clay and other materials valuable in the manufacture of plaster of paris and such goods, are to be found within thirty miles of Kamloops.

Chemical Stucco Retarder Co.

WEBSTER CITY, IOWA, June 21.—The Chemical Stucco Retarder Co., of which Mr. S. S. Parkhurst is the manager, writes us as follows: "We have just completed the installation of a new Raymond pulverizer and air separation plant, also a new system of mixing, so that we can now turn



C. L. MILLER'S NEW KILNS AT THE MANLIUS QUARRIES.

out retarder that is uniform in strength and very finely ground.

"This will very materially increase the capacity of our plant. Trade is good with prospects bright for a good summer run."

Will Build New Factory.

FLORENCE, COLO., June 18.—The American Gypsum Co., of Kansas, has announced plans for building a plaster of paris factory here. They have secured a lease on a deposit of gypsum on State land near Cramer.

The Consumers' Gypsum Co., has been capitalized for \$15,000.00 at Buffalo, N. Y., for the manufacture of gypsum plaster, stone and building material. John B. Allen, Fred D. Russell and Wallace Herrington are the incorporators.

The Schenectady Wall Plaster Co. has been incorporated at Schenectady, N. Y., for \$4,800.00 for the purpose of manufacturing wall plaster and kindred products. The incorporators are Charles A. Simon, John J. Howard and Isaac Smith.

The Roaring Forks Plaster Co. has been incorporated at Glenwood Springs, Colo., for \$600,000.00. E. J. Bess, G. D. Cummings and A. Hannah are the incorporators.

Plans have been prepared for William O. Anderson, of the New Jersey Pulp Plaster Co., of Trenton, N. J., for a building 60 x 100 feet which is to replace the building destroyed by fire last month. The new building will be fire-proof. The material for its construction will be iron and concrete.

Lime.

The National Lime Manufacturers' Association.

Meets Semi-Annually.

Peter Martin, Huntington, Ind., President
O. F. Perry, New York City, First Vice President
W. B. Hill, Kansas City, Mo., Second Vice President
A. A. Stevens, Tyre, Pa., Third Vice President
C. W. S. Cobb, St. Louis, Mo., Treasurer
W. H. Delebaugh, Louisville, Ky., Secretary

EXECUTIVE COMMITTEE:

Chas. Warner, Wilmington, Del.; O. W. Robertson, Milwaukee, Wis., and the President.

Official Organ, ROCK PRODUCTS.

Organize Southwestern Association.

MEMPHIS, TENN., May 26.—There has just been organized here among a number of lime manufacturers, what is known as the Mississippi Valley Lime Manufacturers Association. Delegates from the following states were present: Tennessee, Arkansas, Texas, Missouri, Illinois, Indiana and Alabama. Two delegates from each of the states herein named, were appointed committee on membership.

The meeting was called to order by P. M. Huckle, of the Ste. Genevieve Lime Co. of St. Louis, Mo., who explained the objects of the new organization. Considerable enthusiasm was displayed by those in attendance, and they intend to push the good work undertaken with ceaseless energy. After some preliminary work the following officers were chosen: President, P. M. Huckle, St. Louis, Mo.; vice president, J. Martin, Chattanooga, Tenn.; secretary and treasurer, J. Eichel, Indianapolis, Ind.

The organization has been under way for some time, and the members deserve much credit for bringing it to a successful issue. The meeting adjourned on the evening of the first day to meet at the call of the president. The regular meetings of the Association are to be held in Memphis.

A Matter of Education.

It is necessary to educate the public in many things before they can fully appreciate their importance. There are many who still refuse to note the numerous advantages combined in hydrated lime, though a little study should suffice to make them plain. What these people need is the proper enlightenment, which can easily be imparted by those who have used this latest form of lime for all structural purposes.

The single item of waste is one which many contractors overlook in the manufacture of mortar. It would astonish them to learn that this is no inconsiderable amount, if the actual loss were known. Hydrated lime, among its advantages, is bound to lessen this single item to a marvelous degree. What the contractor or builder wants is rapidity, economy and perfect satisfaction in the use of lime. He desires lime that can be applied so as to cover the above points. These points hydrated lime combines to such a nicety as to leave no room for doubt.

The manufacture of hydrated lime, when a plant is properly equipped for the operation, is very simple. We have repeatedly described its manufacture in detail in ROCK PRODUCTS, believing that it will in time supplant the old style or lump lime almost entirely. It is a notable fact that the successful lime manufacturers are adopting the hydrating system, seeing its many advantages, are continually noting increased calls for it from lime users. Even these manufacturers must be enlightened to its good points, if they are to keep abreast of the large retinue of its users, which is daily increasing.

No Cause for Real Alarm.

The lime manufacturers have their troubles just like other poor mortals, but they are a hustling lot of level headed business men, who are always on the alert to improve their condition. No doubt the men who burned lime in the now distant ages had their troubles too, but it is presumed they lived them down, and if they did not die rich, were at least happy in the effort they made.

We hear now and then that some lime manufacturers fear that the competition of other materials will eventually swamp them. It is more than possible that their ancient predecessors took the same view of the situation; and yet lime is to-day being used in much greater quantities than ever in the history of the world.

The building activities of the present day call for millions of barrels of lime, and while there are other materials which may appear to be making an onslaught on the lime manufacturers' product, he need have no serious fear as to the outcome.

If he is a thoughtful man, and we cannot doubt but that he is, he will see about him newer uses for lime. These are growing continually, and must not alone open new fields for action, but increase the lime man's profit as well. To sit by and see his business drifting from him is the least plausible excuse to offer for his seemingly deplorable condition. To-day the lime manufacturer gets the plums, and it is up to the lime man to seek the orchard, and put his shoulder to the wheel which turns public opinion. Let your voice be heard on the public highways, and your commodity will not be lost sight of by the populace.

Lime a Superior Fertilizer.

One of the uses to which lime is being put more generally than ever is that of fertilizing. Its use for this purpose alone has shown a very marked increase during the past few years. Lime is just as essential to rich earth as any other component part, and where the land is devoid of lime, it is necessarily poor and barren.

Many people are not aware of this fact, and vainly attempt the production of vegetables and other commodities on land wholly unfit for such purposes. The lime manufacturer can find an outlet for much of his product, particularly in farming localities, and it would be a profitable undertaking to endeavor to advocate the use of lime for this purpose.

Are Peers in Their Line.

FOSTORIA, OHIO, June 4.—Among the live organizations here is that of the Seneca White Lime Co. This company was organized in 1899 and now operates one of the most progressive and modern lime plants in the country. The company has a capital stock of \$100,000.00, and manufacturers two brands, viz: "Seneca Chief" and "Honey Comb" Lime. This is the well known Fostoria White Lime and the increasing sales for the company's output is the best testimonial as to its quality. The present officers of the organization are: President, A. Emerline; vice president, C. E. Palmer; secretary and treasurer, M. C. Briggs; manager, W. S. Sutliff.

Big Lime Company Formed.

LOS ANGELES, CAL., June 12.—Over in Nevada near the little town of Searchlight, a very large ledge of limestone has been located, and a company has recently been organized to develop and operate the property. It is the purpose of the company to erect a large plant at the ledge and begin operations as soon as practicable. From the stone a very excellent quality of lime is produced. Mr. G. A. Canfield, of Los Angeles, is prominently identified with the enterprise.

Very recently the incorporation of the Sierra and Eastern Railway was completed at Bakersfield, Cal. This constitutes the first important step toward the development of the lime concern located near Searchlight. This railroad is to be constructed from the lime deposits over to Tehachapi, a distance of about 200 miles. The directors are C. A. Canfield, of Los Angeles, H. M. McIntosh, of Chicago; J. A. Chancellor, of San Francisco, Ida M. Jamelson and J. W. Jamelson, of Tehachapi. It is the purpose of the company to make the new property one of the large lime-producing sources on the Pacific coast.

Modern Plant Completed.

The new lime and crushed stone plant of the Standard Lime and Stone Co., at Oakfield, Wis., is nearly completed and will be in full operation within a few days. The plant consists of two modern lime kilns with an actual capacity of 160 barrels each per day, and a No. 5 Austin crusher which was installed complete by the Austin Manufacturing Co., of Chicago. The whole plant is protected from fire by a water works system which was installed by the Fairbanks-Morse Co., and which also furnishes water for the boilers. The limestone cliff is 107 feet higher than the railroad track in front of the kilns and the water is pumped up into a 150 barrel tank on top of the cliff through a two inch pipe by a gasoline engine. Pipes returning from this tank provide for throwing water over the entire plant in case of fire. Because of the height of the limestone formation, gravity does all the work from the time the stone leaves the quarry until the lime or crushed rock is loaded into the car.

In making excavations for the buildings, a superior quality of clay suitable for dry press brick was found only a foot and a half below the surface, and the lowest excavation of twelve feet did not reach the bottom of the deposit. Tests of this clay were made in Ohio and Missouri, and the samples showed an excellent dark red brick of superior hardness and smooth face.

The Standard Lime and Stone Co., whose offices are at Fond du Lac, Wis., also operate an extensive lime plant and quarries at Valders, Wis.

Successful Plants Hydrate Lime.

Mr. Charles C. Kritzer, general manager of the Kritzer Co., of Chicago, Ill., the recent organization whose announcement appeared in ROCK PRODUCTS, says that all the lime organizations in the east who are using hydrating machinery report an active demand for their output. On the other hand the plants who have not adopted this newer method complain of business being dull. Thus far the Kritzer Co. has met with great success in introducing their hydrating outfits, and the success of the organization is a foregone conclusion.

Want Lime of Peculiar Quality.

NEW YORK CITY, May 23.—Bloomer & Co., large dealers in lime for chemical purposes write us saying: "Our object in writing to you is in reference to a special chemical lime we want to secure and thinking possibly through your paper we might get this article. The special kind of lime we want to secure is a lime similar to Cheshire lime, but that lime is not suited from the fact that there is entirely too much soft, fine lime, which is about 75 per cent. The Cheshire lime gets very hot and slacks almost immediately on the application of water. Now that is a kind of lime we are desirous to get and it must be lumps, in fact all lime usually is in lumps as it is drawn from the kilns.

"New England limes are exceptions, for as stated, both of these limes have so much fine lime in them that they are objectionable for the purpose that we wish to use it. We want a lime that is extremely hot and quick slacking. So far we have found nothing in this market that is equally as good as the Cheshire. New England lime also has all the important elements of the lime we are seeking. We do not care about quality or color so long as it slacks quick and gets very hot; that is all that is required. Some 10 or 15 years ago we had shipments of a similar lime, some burned in Pennsylvania. We gave it the name of fire cracker lime because just as quick as the water was thrown on it it began to snap like fire crackers and got very hot and slacked very quick. Any ordinary lime will not answer our purpose at all; it must be a lime that slacks just as quick as the water is applied and the hotter it gets the better price we are willing to pay for it."

Wants to Burn Lime with Oil.

S. A. Knapp, of Oakland, Cal., has a very fine deposit of limestone in the west which he desires to develop. He informs us that he wishes to install a modern plant and would like to ascertain the best method for burning lime, using oil for fuel.

Purchase Additional Land.

CHICAGO, ILL., June 6.—The Brownell Improvement Co., of Thornton, has lately purchased 270 acres of stone ground for a cash consideration of \$40,000.00. They have also recently bought of F. Gardner two acres of choice limestone for the sum of \$7,000.00. This will be used for the manufacture of lime. The output of the company is about 450 barrels of this product per day.

Install Hydrating Plant.

MANISTIQUE, MICH., June 1.—The White Marble Lime Co. always enterprising in anything it essays to do, has completed its hydrating plant and same was given its initial test last week by experts. The results were very satisfactory. It will now be in a position to furnish lime of a superior quality to its customers throughout the middle west and be able to reach out for new business. In order to install the plant radical changes and improvements were made to the lime plant and much machinery added. Hydrated lime is now manufactured by the leading plants in all parts of the country, and its superiority over ordinary lump lime is most pronounced. The finished product is very fine and white, and is proof against air slacking, as is ordinary lime. The plant was erected by the Clyde Iron Works, of Duluth, Minn., and the bagger by the Urschell, Bates Valve Bag Co., of Woodville, O. The power is furnished by a 75 h. p. engine built by the McDonald Engine Works, of Lapeer, Mich. But 35 h. p. is required at present. Steam is furnished from the boiler of the pumping plant on the premises, and conducted through asbestos covered pipes to the engine. The capacity of the plant is thirty tons per day, and this is the fourth successful plant of this system now in use, and the first in Michigan. Several car loads will be shipped throughout the country, particularly the north west as samples to introduce it.

A Lime Operation in Colorado.

SALIDA, COLO., June 20.—The Colorado Contract and Fluxing Co., write us regarding their operations: "Our property comprising two claims in Garfield, the Monarch mining district, covers an area of 1,500 x 600 feet, the entire mountain being of lime. Our quarry proper is 500 feet in height, 250 feet wide and runs in about 400 feet. We ship daily about 350 tons of the rock to the smelters, where same is used for fluxing purposes. So far we have not burned lime, since our market for the rock is too great to permit it. In quarrying we use three Ingersoll-Sergeant drills driven by an air compressor of the same make. Our list of employees numbers forty men and we enjoy the distinction of owning and operating the largest uncovered body of lime in Colorado. Our lime is of the highest grade of blue and white crystallized variety and runs well in silver throughout."

The California Lime Co., of Portland, Me., has been organized with a capital stock of \$230,000.00. The company will manufacture and sell lime in all its forms. F. M. Frost, of Boston, Mass., is president; Frederick Hale, Portland, Me., clerk.

The Berkshire Lime Co. has been organized at New York, N. Y. The company will mine limestone, manufacture lime, etc. The capital stock is \$10,000.00. The incorporators are: P. J. Heany, George E. McLean and James A. Heany, all of New York.

The Cox Lime and Stone Co., has been organized at Norristown, Pa. Those interested are: Charles Cox, B. Wilson Cox, Charles C. Cox, Mary A. N. Cox, Elizabeth B. Cox and Catherine S. Cox.

Wussow Bros., of Slab City, Wis., have just completed the installation of a patent lime kiln and are enjoying a good demand for their output.

The Holran Stone and Lime Co., of Toledo, O., has been incorporated. The capital stock is \$100,000.00. P. L. Van Alstine, Louis Ravenil, F. L. Carroll, W. E. Gillett and Geo. A. Blackford are the incorporators.

The New England Lime Co., of New York, has filed certificates enabling the company to do business in Vermont. The capital stock of the company is \$1,500.00. The principal office will be at North Pownal, Vt.

The American Lime Co., of Spring City, Tenn., has been organized. The capital stock is \$100,000.00. The company is erecting a large plant which will have a daily capacity of 1,200 barrels. L. G. Young is manager.

Cement.

Increase in Use of Cement by Railroads.

The increase in the use of cement by railroads has been indicated in the large number of concrete piers, abutments and retaining walls, concrete arches and culverts and concrete shop buildings which have been built of late. A fair idea of its increase may be had from the diagram herewith, which is based from figures from five roads, representing 32,523 miles of main line.

1905	504,600 bbls.
1904	410,000 bbls.
1903	396,100 bbls.

The roads selected represent an average expenditure for extensions and betterments, and although all are trunk lines, it may be pointed out that it is the trunk lines which represent the normal increase. The use of concrete by the smaller roads has jumped from practically nothing in the last three years following the demonstration of its qualities by the larger lines.

Production of Portland Cement in 1905.

The United States Geological Survey announces that the production of Portland cement in 1905 amounted to 35,246,812 barrels, valued at \$33,245,867.00. This is a gain of 8,740,931 barrels in quantity and \$9,890,748 in value over the output of 1904, which amounted to 26,505,881 barrels, valued at \$23,355,119.

The Cement Industry on the Coast.

The recent disaster at San Francisco has had the effect of giving a very strong impulse to capitalists to engage in the manufacture of cement on the Pacific coast.

Henry Spackman, of Philadelphia, is now in San Francisco in the interests of a syndicate that plans to invest millions in the development of the cement industry on the Pacific coast. Deposits of cement in Oregon, Washington and California are being secured by this syndicate which is composed of leading capitalists of the east, who expect to invest nearly \$5,000,000.00 in the properties.

Engineers will arrive on the coast this summer from the east to look over the deposits and verify the flattering reports that have been sent to the men interested. Options have been taken in many localities, and as soon as plans for the development of the properties are approved by those interested, plants will be erected for the manufacture of cement.

Location of the properties or the works can not be announced until arrangements for taking over the holdings by the eastern syndicate are fully perfected. Experts who were sent out here some time ago, located promising cement properties, and it is believed that the ultimate investment by eastern capitalists will be limited only by the possibilities of the industry.

Getting Their Share of Business.

JACKSON, MICH., June 14.—Mr. J. W. Shove, the secretary of the Peninsular Portland Cement Co., writes as follows regarding the situation: "We think manufacturers in all lines are enjoying excellent trade and their share of the prosperity all the country is having at the present time. Certainly the cement trade is excellent; the demand being great and prices naturally growing stronger. Speaking for ourselves personally, we have increased our output considerably over previous years all of which is finding a ready market. From our observation the amount of cement produced in this vicinity will be increased largely over last year with the demands correspondingly greater. In fact, believe it will tax manufacturers to supply the demand. We are having numerous inquiries for quotations on cement to be shipped west of the Mississippi all of which we are obliged to decline, and conclude other manufacturers are having the same experience. There seems to be new uses for cement developing every day and the indications are that the cement industry is only just in its infancy."

Hearts of Oak Are Now Hearts of Cement

The park authorities of New Orleans have created great interest in that city by filling in the trunks of the great oaks near St. Charles Avenue with cement to arrest the decay of the trees. Horticulturists have found that cement will preserve the trunks of trees from rotting just as a filling in a tooth prevents further decay. The question arose last year as to what should be done to preserve the great oaks at Audubon Park which were losing their growth and verdure by reason of big holes in their trunks, and it was accordingly decided to fill the apertures with cement. Several cartloads of sand, mortar and bricks were used in the operation, which has been attended with great success. The old oaks have regained their strength, new branches have begun to grow, and altogether they have put on signs of renewed life.

The Cowham System.

JACKSON, MICH., June 20.—The *Citizen Press* of this city recently contained an extensive write-up of the Cowham System of Portland Cement Mills. The article in part is as follows: "But a few miles from Jackson, situated at Cement City, is the parent plant of what is now the largest Portland cement organization in the world—The Cowham System of Portland Cement Mills. W. F. Cowham, the founder of this gigantic enterprise, is so well known by every one here and elsewhere that it is needless to dilate on his life."

"He studied carefully the merits of concrete construction and became convinced that Portland cement was the one great building material of the future. Studying carefully every detail and being convinced of its successful future, he decided to cast his lot in Portland cement."

"In his effort to establish an enterprise of national—yes, international importance, he has used the same cool headed judgment and forethought that had previously made his efforts with the McCormick Harvesting Machine Co., a company with which he was identified for years, so successful, and, by dint of effort and tenacious 'stick-to-itiveness' so especially characteristic of the man himself, he has placed himself among the great captains of industry in the United States, and stands to-day the strongest and most prominent figure identified with Portland cement manufacture. His ability for organization has been especially potent in this cement field."

"The Peninsular Portland Cement Co. was the first organized by Mr. Cowham and was the parent mill of what has now grown to become the greatest organization in the business. The mill is located thirteen miles south of here with headquarters in this city. North, south, east, west, the Cowham Portland Cement Mills rear themselves as monuments of indomitable courage and perseverance, and are landmarks on the road to America's first position among the nations of the world."

"In connection with the organization another man must be mentioned, upon whose shoulders has rested the great responsibilities of organization and finance, and this is Mr. Cowham's associate, W. H. L. McCourtie. He is a most able lieutenant to Mr. Cowham, and his big, healthy 260 pound avoirdupois frame contains a heart as big as a cement mill itself, and an abundance of nervous gray matter of the fine texture which makes his executive ability the admiration of everyone he meets. He is a success, his tactful genius is a valuable asset to the organization, and his kindly disposition and generous ways make him a fit associate to Mr. Cowham."

Waterproof Cement.

A water-proof cement has been patented in Germany. It consists of a mixture of vegetable wax and caustic lime in boiling water, added to unground Portland cement clinker, and all are ground together. The formula is given as follows: To each 200 pounds of cement clinker is added a mixture of $\frac{3}{4}$ pound of Japan vegetable or berry wax, and one ounce of caustic lime which has been dissolved in 14 pints of boiling water. These ingredients are thoroughly mixed and when cooled are dried and ground very fine with cement clinker. The inventor claims that a coating of this material $\frac{1}{2}$ in. thick placed on a brick wall will render it water-proof.

Mr. C. H. Breerewood, formerly secretary-treasurer of the Bonneville Portland Cement Co., is now connected with the Copley Cement Manufacturing Co.

Belgian Cement in Demand.

From Antwerp, Belgium comes the news that the cement market there is very animated and the demand increasing and prices rising somewhat, though not in proportion to the increase in cost of production, caused by the rise in fuel.

The present rush is due to the demand created so unexpectedly in San Francisco. It is reported on the market there that at the time of the San Francisco disaster, cement was lacking on the Pacific coast, owing to the large number of important works being carried out in numerous localities on the Pacific, especially in connection with the Southern Pacific and other railroads.

It was reported that the stock of cement in California was so reduced that there was then and had been for several months, a cement famine, the more especially, as several German sailing vessels, on the way to California, loaded with cement, had met with accident. The scarcity of the product was felt also in the Sandwich Islands, with the result that prices had risen as high as \$5.50 per bbl., from \$3.50.

This scarcity of cement, both at Honolulu and California, promised to last several months more, and it had been foreseen that the great demand in the Pacific regions would be for several years to come. For this reason the French Consul reported to his government, drawing the attention of the manufacturers to the prospects of the cement trade. Up to recently the foreign cement preferred in California has been of German manufacture, exported principally as ballast, by sailing vessels, from Hamburg or Bremen.

Recent experience has shown that Belgian cement yields as good results and the demand now has turned as much in favor of Belgian as of German cement, and contractors from the United States are now in Antwerp buying up large quantities.

Never has the demand for cement been so great in the United States, a circumstance from which the Antwerp shippers can derive much benefit. The largest cargo yet shipped out of this port (Antwerp) for California, left recently in the Knight of St. George. It amounted to 6,053 tons.

Valuable Cement Pamphlets.

The Association of American Portland Cement Manufacturers, Land Title Building, Philadelphia, have the following pamphlets for free distribution among users of cement and other interested parties:

- Bulletin No. 1.—"Concrete Building Blocks."
- Bulletin No. 2.—"The Possibilities of Concrete Construction from the standpoint of Utility and Art."
- Bulletin No. 3.—"Sand for Mortar and Concrete."
- Bulletin No. 4.—"Notes on Cement Testing."
- Bulletin No. 5.—"Irregular Methods of Testing Cement."
- Bulletin No. 6.—"Comment on the Advantages and limitations of Reinforced Concrete."
- Bulletin No. 7.—"The Making and Driving of Corrugated Concrete Piles."
- Bulletin No. 8.—"The Proportion of Cement Mixtures."
- Bulletin No. 9.—"Methods of Testing and Some Peculiarities of Cement."
- Bulletin No. 10.—"Decoration of Concrete with Colored Clays."
- "Standard Methods of Testing and Specifications for Cement."
- "Concrete Construction—Its Fireproof Qualities."

New Cement Plant Contemplated.

CHATTANOOGA, TENN., June 19.—An unusual amount of interest has been aroused in Chattanooga over the announcement that W. J. Oliver & Co., the largest railroad contractors in the South, with headquarters at Knoxville, were to construct an enormous plant at Middlesborough, Ky., for the manufacture of Portland cement to be used in the construction of the lock and dam at the "Suck."

The matter has been taken up by the finance committee, the board of directors and secretary, of the chamber of commerce of this city, with the idea of securing the plant for Chattanooga, if possible, as there are very large deposits of cement rock, together with all the necessary clays, etc., used in the manufacture of the cement, immediately around this place and very easy of access.

Will Import Cement From Japan.

PORTLAND, ORE., June 19.—Every pound of cement manufactured in Japan for the next two years will be shipped to San Francisco, with the exception of the amount needed for home consumption. There are only four factories in that country, and the operators of them have signed an agreement to send all of the surplus product to the Bay City for the ensuing 24 months. They guarantee an annual shipment of 40,000 tons of the material, and more if it is not required for local needs.

This information was received yesterday by a number of the Portland importers, who are endeavoring to make arrangements to engage regular shipments of cement on the steamers operated by the Portland and Asiatic Steamship Co. It was also ascertained that the last consignment of cement from Japan for this section will arrive on the Arabia and Aragonia, the next freighters due. Between them they will bring about 11,000 barrels, which will be consigned to W. P. Fuller & Co. The annual production guaranteed to San Francisco importers will represent 200,000 barrels.

While Portland is shut out of the Japanese market it is believed that all the cement needed can be procured from Europe. The North Bank Railroad people alone have closed a contract with one of the local firms for 85,000 barrels. Nine vessels were engaged several weeks ago by W. P. Fuller & Co., to bring straight cement cargoes from European ports. Since then they announce that they have engaged twelve more craft for a similar purpose, but for reasons of their own have decided not to make the names of the carriers public for the present. The aggregate cargoes of the fleet will approximate 400,000 barrels of cement.

Installing New Machinery.

MARLBOROUGH, MICH., June 19.—The Great Northern Portland Cement Co. is now installing machinery for the handling of rock instead of marl. This company without doubt owns more marl than all the plants in Michigan combined, having some twenty lakes. The marl is excellent and makes the highest grade of cement, but the Great Northern are gradually abandoning the marl proposition, owing to the organic matter which is carried by the marl, and the expense of getting the organic matter and water out of the marl.

The Great Northern makes the fifth plant in Michigan which has abandoned the marl proposition and has taken up with lime rock.

New Cement Plant at Colton.

LOS ANGELES, CAL., June 18.—Capitalists from the North and East are preparing to incorporate a company to manufacture cement at Colton, San Bernardino County. The persons interested in the project include: Charles E. Ladd, of Portland, Ore.; J. S. McMillan, railway commissioner of the State of Washington; W. H. Dennis and H. C. Stratton, of Portland; Henry S. Spackman, of Philadelphia; A. W. Patterson and Frank L. Brown, of New York; W. R. Newberry, of Cleveland; A. L. Emory, of San Francisco; Ira Judson Coe, of the Lehigh Valley railway, and J. C. Kemp Vance.

The plans of the new company are said to include the erection of a plant and the establishment of distributing depots.

Cement Plant Sold.

ALLENTOWN, PA., June 16.—Sheriff Roberts, of Northampton, sold at the court house the cement mill, quarry and cement lands in the borough of Nazareth and townships of Lower Nazareth, Upper Nazareth and Buskill, the property of the Nazareth Cement Co., to H. D. Rundle, trustee, for \$9,000.00. The sale was made on an execution of more than \$1,300,000.00. It is said there will be a reorganization.

Will Build Cement Plant.

MASON CITY, IOWA.—The business men of this city entertained the capitalists who will build the \$1,500,000.00 Portland cement plant here. The leading mover in the enterprise is W. F. Cowham, of Jackson, Mich., who has put into successful operation five plants. He says the one for this city will be one of the largest and best in the world. The machinery has been ordered built and in due time a plant with 3,000 barrels daily capacity will be in operation.

New Yorkers Buy Cement Rock Deposit.

MT. STERLING, KY., June 18.—Mrs. Kate Bohman and James Patrick have sold to New York capitalists their farm of 700 acres near Stanton, Powell County, for about \$90,000.00. The farm is on the Lexington and Eastern railroad and is one of the richest in minerals in the state. It has upon it a stratum of rich cement rock, which is about five feet in depth and seems to possess an inexhaustible supply. The cement rock has been examined by a government geologist who pronounces it of the finest quality. The new owners will at once begin a development of the properties.

Big Cement Plant for Canada.

NIAGARA FALLS, ONT., June 16.—Port Colborne is to have the largest cement industry in Canada. The Great Lakes Portland Cement Co., of Port Colborne, has been incorporated with a capital stock of \$1,000,000.00 and work will soon be begun on the great plant which will have an output of 1,500 barrels a day. The site of 50 acres has been secured and 100 men will be put to work at once.

Doubling Their Capacity.

CALEDONIA, N. Y. June 19.—The Iroquois Portland Cement Co. have decided to double the capacity of their plant and are installing new machinery and equipment for that purpose.

A preliminary drying system of six new dryers will be installed, the wet marl coming to four of them through new conveyors from the pits. A new locomotive crane will be used to take the marl from the dredge to the cars which haul it to the conveyor.

Six hundred h. p. electric motors will be delivered to the plant before winter from Niagara Falls and an expensive transformer station will be built to make it available. An addition to the clay sheds, a clinker building and a new laboratory, will be built. From 500 barrels the capacity will be increased to 1,000 barrels every 24 hours. This will be done without adding more than 10 per cent to the number of men employed, however, improved machinery being so arranged as to turn out a large product. One hundred and twenty-five men are now employed.

Increase Output to 900 Barrels Daily.

ELK RAPIDS, MICH., June 20.—The Elk Cement and Lime Co., write as follows: "Market conditions are exceedingly good. We are making 600 barrels daily with two 86x6 ft. rotary kilns. We have also installed a new 86x7 ft. kiln and additional grinding machinery and will increase our output to 900 barrels daily by July 1."

Soda to Set Cement.

H. M. Consul at Philadelphia (Mr. W. Powell) refers to the difficulty found in making cement roofing tiles, namely, that they take a long time to set or harden. He says: "A maker of roofing tiles who had considerable trouble with the cement in this way observed that a plasterer facing a wall with cement put a handful of soda into the mixing box before using the cement. This, he stated, was for the purpose of making the cement set quickly. The tile maker experimented himself since which time he has added a handful of soda to each sack of cement, and has had no further trouble with slow setting. It has not yet been proved, however, what the effect of the soda will be upon the quality and durability of the cement in the course of time.—*The Brick and Pottery Journal*."

Manufactures Fire Cement.

LEWISTON, ME., June 20.—Eli Roy, the well known contractor, has developed a promising industry. He is now sole owner of the plant, but proposes in the near future to form a stock company, retaining half the stock himself and selling the balance to business men. The industry is that of manufacturing fire cement which is used chiefly in the construction of brick boilers and furnaces in mills and large factories. The new company will bear the name of the New England Fire Cement Co.

Mr. L. L. Griffith, formerly superintendent of the Bonneville Portland Cement Co., has been appointed assistant superintendent of the Vulcanite Portland Cement Co.

THE QUARTERLY MEETING

The American Portland Cement Manufacturers Meet at Atlantic City.
Large Attendance.

MOST SUCCESSFUL MEETING EVER HELD.

ATLANTIC CITY, N. J., June 13.—The quarterly meeting of the Association of American Portland Cement Manufacturers, was held at the Hotel Brighton this week.

The meeting of the Executive Committee of the Association was held on Monday evening, June 11, at 8 p. m.

All the various committees of the association reported progress in their various lines.

The meeting of the association as a body was held on the steel pier, accommodations for the same having been gratuitously provided by Wm. Jay Turner, president of the Steel Pier Co.

Tuesday's session was devoted to a general discussion of the business of the association, and was called to order by John B. Lober, president, at 10:30 a. m., Joseph Brobston acting as secretary pro tem and C. Earle E. Bottomly, assistant secretary.

The following company members were represented:

Alma Cement Co.—David Trainer, C. K. Davis.
Alpena Portland Cement Co.—John Monaghan.
Alpha Portland Cement Co.—A. F. Gerstell.
Alsens American Portland Cement Works.—Max Cappus, W. F. Corbett.

American Cement Co.—R. W. Lesley, C. M. Camm, R. E. Griffith.

Bath Portland Cement Co.—G. W. Roydhouse, F. E. Franks.

Castalia Portland Cement Co.—W. J. Prentice.

Chicago Portland Cement Co.—Norman D. Frazer, D. D. Drummond.

Coplay Cement Mfg. Co.—Wm. H. Harding.

Chas. M. Saeger, H. S. Hartzel.

Dexter Portland Cement Co.—Conrad Miller.

Jos. Brobston, W. Jones.

Edison Portland Cement Co.—W. S. Mallory, E. Meyer.

German American Portland Cement Co.—Fritz Worm.

Glen Falls Portland Cement Co.—Geo. F. Boyle.

F. W. Douglass.

The Helderberg Cement Co.—T. Henry Dumary.

Hudson Portland Cement Co.—E. Bravender, W. G. Hoover.

Illinois Steel Co., Cement D'pt.—Edward M. Hagar.

Lawrence Cement Co.—Ernest R. Ackerman.

Mr. Johnson, L. V. Clark.

Lehigh Portland Cement Co.—Geo. Ormrod, Geo. C. Sykes, Chas. A. Matcham.

Marquette Cement Mfg. Co.—Wm. Dickinson.

Newaygo Portland Cement Co.—D. McCool, Geo. T. Burrill.

Northampton Portland Cement Co.—C. P. Jameson, H. A. Schaffer.

Omega Portland Cement Co.—Chas. F. Wade.

Penn Allen Portland Cement Co.—A. Burnes, W. R. Yeager.

Pennsylvania Cement Co.—Wm. N. Beach.

Phoenix Cement Co.—Wm. Turner, Jos. Zipperlein.

Sandusky Portland Cement Co.—S. B. Newberry, W. B. Newberry, P. B. Beery.

United States Cement Co.—F. E. Walker.

Virginia Portland Cement Co.—W. R. Warren.

Vulcanite Portland Cement Co.—J. B. Lober, W. D. Lober, W. R. Dunn, Albert Moyer, G. K. Stradley.

Western Portland Cement Co.—Geo. S. Bartlett.

Mr. Van Dorn, A. Steinmetz.

Whitehall Portland Cement Co.—Thos. M. Righer, W. C. Kent, H. B. Green.

Wolverine Portland Cement Co.—Chas. H. Wood.

The all important bag question received thorough consideration and was discussed at length. A good, strong paper bag is certainly an item that would fill a long felt want, both for the manufacturer, dealer and consumer, and the man who can furnish a bag that will stand the racket of being loaded on cars and the subsequent handling, without breakage, on the work for which the shipment of cement is destined, will receive not only the thanks of the trade generally, but will have discovered a gold mine that will pay real dividends.

The Bath Portland Cement Co., of Bath, Pa., were duly elected members of the association,

which now has a total membership of fifty companies.

One of the important resolutions adopted by the association, was that of making an appropriation for the purpose of providing prizes for architects taking part in competition for drawing and plans for concrete block houses. This is certainly working in the right direction and should do much toward increasing the use of a wonderful building material, as well as teaching the uninitiated.

Another reminder of the late San Francisco catastrophe was the receipt of letters of regret from the Standard Portland Cement Co., and Pacific Portland Cement Co. The plants of both companies are located in California, and were considerably damaged by the earthquake, necessitating the presence of the heads of the plants on the ground during the rebuilding and repairing of the damage referred to.

The business session convened at 5 p. m. to reconvene at the Steel Pier at 10:30 on Wednesday morning, June 13.

The Entertainment Committee, consisting of W. R. Warren, E. M. Hagar and E. R. Ackerman, provided a grand banquet which was held in the spacious dining room of the Windsor Hotel, at 8 o'clock Tuesday evening.

Speeches were made on trade conditions by Messrs. Harding, Lesley, Jameson, Prentice, Dumary, Newberry, Monohan, Hagar and others.

The music furnished for the occasion was exceptionally good, and the many songs, lead by W.



CHARLES A. MATCHAM AND A. F. GERSTELL, PHOTOGRAPHED ON THE BOARD WALK AT ATLANTIC CITY.

L. Douglass in his able and capable manner, were encored repeatedly.

On Wednesday, June 13, the meeting was called to order at 10:30 a. m., and the following program was carried out:

"Cost Reduction of Reinforced Concrete Work."—Stereopticon talk by Mr. E. P. Goodrich.

"Etruscan and Roman Mortars as Compared with Modern Concretes."—Stereopticon talk by Mr. R. W. Lesley.

"Mercantile Warehouse Construction."—By Mr. Ross F. Tucker.

A large audience was afforded the respective readers, whose papers were very clearly and intelligently prepared.

S. B. Newberry spoke at great length on a new cement for use in sea-water work, which has been patented in Germany and is now being sold in this country. It is not as yet manufactured on this side. His report as to what the Committee on Technical Research were accomplishing and the benefits to be eventually derived from the work of this committee were especially clear and concise. His paper on the "Work of the German Association of Portland Cement Manufacturers" will be read at the next meeting of the association. All the papers in question will be subsequently published in pamphlet form and furnished free by the association to any one desiring the same.

The Master Car Builders' Association, whose convention was also held on the Steel Pier, were quite interested and pleased with the thorough and

able manner in which the papers were presented and showed much appreciation of the reading of the same.

The next meeting of the association will be held in Chicago on September 10, 11 and 12, and in view of the large number of Western companies who are now members of the association, it should be well attended.

NOTES OF THE MEETING.

The absence of Messrs. Thos. J. Brady, E. M. Young and John Miller was felt by the entire association.

Mr. Dumary's presentation speech at the banquet was the hit of the evening, as was also his little waltz with Charley Camm.

Prices, while an all important topic in any trade, were hardly touched upon in the many talks by the various members. The present prosperous season not only in the cement trade, but in all other trades, certainly tends to promote good fellowship and friendly feeling all around.

Mr. Douglass, the genial sales manager of the Glen Falls, was in excellent voice, and his baritone solos, the choruses of which were joined in by the entire membership, received well deserved applause.

The meeting of the association, while not as largely attended as was the annual meeting in New York, was voted by all to have been the most satisfactory in all its details, of any quarterly meeting ever held.

Mr. Conrad Miller, while present at the business meeting of Tuesday morning, was unable to attend the banquet in the evening, owing to important business requiring his return to Nazareth. Mr. Miller's sound business judgment in the cement trade, as well as in the handling of slate, fits him particularly as a speechmaker. It is to be regretted that he was unable to be present.

The Treasurer's Report, so ably prepared by Mr. Ackerman, was commended by every one for its intelligent, clear cut form. The association is indeed in luck to have a man of Mr. Ackerman's ability to fill the important position of Fund Distributor.

This was the first Atlantic City meeting at which Mr. Trainer and Mr. Davis, of the Alma company attended, and the hospitable atmosphere of the entire meeting was thoroughly enjoyed by these two gentlemen.

Mr. Gerstell's lameness, caused by an automobile accident, is still quite noticeable, but it is sincerely hoped that this will not be permanent.

Mr. W. J. Prentice is the same genial "Pap." Time deals lightly with him, and age seemingly has no effect upon his sturdy frame and sunny nature.

It is indeed grand to see such absolute freedom in manner and speech between the presidents, sales managers and superintendents of the various companies. Not a tinge of bossism or jealousy was evident. This is the sort of American spirit that is wholesome and healthy and speaks much for the success of the association, both individually and collectively.

For the first time in many meetings, Mr. Duane Millen was not present. Mr. Millen is one of the pioneers of the industry and the vacancy caused by his non-appearance, was indeed noticeable.

With three such brilliant and able speakers as Messrs. Lober, Lesley and Hagar in repartee it was indeed an abundance of bright, quick, clever wit.

While it is difficult for Mr. Frazer to catch all that is said at the meetings, yet he is one of the most enthusiastic and regular in attendance, and enjoys every minute of the time.

Rock Products' representative wishes to thank the association for the many courtesies extended to him during the meeting.

It was good to see Mr. Geo. W. Roydhouse again in attendance at the meeting. Recalling the early Martin's Creek days, and it is to be hoped that Mr. R.'s many other large business enterprises will not prevent his attendance at the September meeting in Chicago.

We are advised that work on the Pittsburg filtration plant will be pushed as rapidly as possible as soon as the weather moderates. A large amount of concrete work is still unfinished, and it is estimated that approximately 300,000 barrels of cement will be used during the coming summer. It is also said that about 150,000 barrels of cement will be used in connection with the construction of the National Tube Co.'s plant.

A Great Concrete Retaining Wall.

What is believed to be the highest concrete wall in existence has just been completed by the Niagara Falls Hydraulic Power and Manufacturing Co., at Niagara Falls.

Realizing that the recession of the Falls of Niagara is due to the destruction of the shales, leaving the heavy limestone without the support of the softer rocks beneath, the company felt that in time the deterioration of the shale back of the power station would injure the strength of the supports of the limestone above, ultimately endangering the retaining walls of the forebays.

It was this condition, coupled with the possible danger of falling rocks, that resulted in Chief Engineer John L. Harper designing the facing wall referred to. The wall is made of 1-3-5 concrete filled with a clean rubble, and is about 200 feet in length and is not less than two feet thick at any point. The wall drops to the level of the tail water, and extends fully 150 feet above the eaves of the power house, which are 30 feet high, making a facing 200 feet high, composed of 7,000 cubic yards of concrete. The scale on which the work was done called for the placing of from 80 to 90 square yards of concrete every 24 hours, and as completed reflects great credit upon its designer and builder.

Extensive Improvements Planned.

PENSACOLA, FLA., June 16.—The Pensacola Cement Stone Co., who are extensive contractors in concrete construction and manufacturers of concrete building material, using an outfit of Miracle machinery, contemplate extensive improvements in their plant. They intend to put in a pump dredging outfit with all attachments, including a gasoline engine to operate the hoisting drum, which will move their cars in loading. They have made plans to put in a dynamo for furnishing electric lights in their plant and all other accessories and attachments to make a thoroughly up-to-date plant in every particular. They state that business is very brisk with them and the volume of orders is constantly growing, because the work they have put up is entirely satisfactory to all their customers.

In South Carolina.

BATESBURG, S. C., June 11.—The Concrete Stone Contracting Co. was organized here yesterday afternoon by the election of the following officers: John Bell Towill, president; J. Frank Kneecce, vice president; M. E. Rutland, secretary and treasurer; Walter J. McCartha, general manager. The capital stock of the company is \$3,000.00, all of which was immediately taken up. The company proposes to get their plant into operation as soon as possible. They propose to manufacture all kinds of building materials and take contracts for the construction of buildings.

Slag for Making Hollow Blocks.

ORRISONIA, PA., June 16.—The Orrisonia Artificial Stone Co. has been organized to manufacture building and paving bricks, sewer pipe, fence posts and other articles under the patent recently issued to utilize furnace slag for such purposes. The officers of the company are: O. S. Fraker, president; W. O. Moore, vice president; W. J. Hunter, secretary. They will manufacture of the slag, brick, building blocks and other articles after the manner of concrete blocks.

Work has been resumed on the plant of the Kansas City Portland Cement Co., at Wayne City, Kan., and it is expected that the plant will be ready to do business by fall.

Mr. H. A. Booth and associates are erecting a 5,000 barrel cement plant at Benicia, Cal. They hope to have it finished this fall.

The Northampton Portland Cement Co. have moved their sales office to the Metropolitan Life Insurance Co., Building No. 1, Madison Avenue, New York City, suite 6001 and 6002, sixth floor.

The Iroquois Portland Cement Co. have removed their offices to Caledonia, N. Y., where all business communications are to be addressed in the future.

The Edison Portland Cement Co. have removed their offices from 71 Broadway to the St. James building, 1133 Broadway, New York City.

It is rumored that English capitalists are preparing to establish a \$1,000,000.00 Portland Cement plant at Cumberland Gap, Tenn., just across the Kentucky line.

Buffalo Cement Co.

BUFFALO, N. Y., June 16.—Among the industries that have made Buffalo famous must be mentioned the Buffalo Cement Co., Ltd., one of the largest concerns in this part of the country, engaged in the manufacture of cement.

The northern district is the home of the company's extensive plant where 400 men find employment and where the details of the great and growing business are carried on. It has a trade that extends into several States, in all of which its goods have a well merited reputation for quality, and general superiority. It supplies cement of only the best grade and is at all times prepared to fulfill large contracts.

The Buffalo Cement Co. was incorporated under the laws of the State of New York in the year 1877, and has seen steady growth during the past quarter of a century. The members of the company are men of high standing in the business world, and its officers are men of well known capability. Mr. Lewis J. Bennett is the president, Mrs. James P. Woods, the vice-president, William Angus treasurer, and Mr. Leslie J. Bennett, secretary. All are leaders in their line.

The Concrete Industry in Bloomington.

BLOOMINGTON, IND., June 1.—The Cement Block Co., of which Mr. C. J. Axtell is the manager, is a thrifty concern which has been in the business here for a couple of years. They have a good location alongside the railroad track, which is a very important feature of a cement working plant, for the reason that all the sand used in the manufacture of cement building block must be received in carloads from the gravel pit more than sixteen miles distant. The machinery outfit consists of four Pettijohn machines, also a Pettyjohn fence post machine, and the factory is built of concrete block. The yard is leveled off in such a way that the blocks are arranged upon a pallet surrounding a driven well, the water from which is used for spraying and curing the blocks. They constantly keep on hand a good stock of blocks, and operate the plant nearly all the winter in order to accumulate a stock.

Mr. Axtell remarks that they have contracts and orders now on hand which will practically clean up all the blocks that they have already finished as well as what they can manufacture during the remainder of the season. They have just received and put in their storage warehouse a carload of Atlas cement. Bloomington is a great limestone quarrying community and Mr. Axtell says that it is a high recommendation for his building material that builders in this community are glad to pay for cement block in spite of the fact that good refuse stone can be had at any of the local stone mills free of charge with no cost at all except for the hauling. Mr. Axtell is a close student of the concrete building material business and is making a very good, merchantable product at his factory. A large number of houses in the city of Bloomington and the immediate vicinity are using his blocks for the foundations of wooden structures as well as for the entire building.

Mr. J. A. Pike also has a brick machine, besides a mold for making hitching posts and other concrete commodities. He has made an arrangement with some of the largest local stone mills to use what is known as dead sand, which means that it has been used for furnishing the grit for gang saws and this he mixes with cement to manufacture into concrete bricks and other materials. He had the misfortune to have his shed, which he had provided for curing his bricks, blown down by a severe windstorm a short time ago, although it would appear that there was no damage to his brick. Mr. Pike's operations have barely got started as yet, although his shed contains many examples of good looking concrete work.

James P. Wood, vice president and treasurer of the Buffalo Cement Co., and one of the best known men in Buffalo died as the result of an operation. He was forty-six years of age, was one of the main spirits in the Manufacturers' Club and the Buffalo Club, and one of the founders and pillars of the Ottowega Club in Central Park, of which he had been treasurer and president.

Mr. F. C. Willbrand has been appointed sales manager for the Northampton Portland Cement Co., succeeding Mr. Bernard.

CEMENT NOTES.

The Ironton, Ohio, Portland Cement Co., has increased their capital stock from \$225,000.00 to \$300,000.00.

The floor of the new 65th Regt. armory at Buffalo, N. Y., will be made of concrete. The contract price is \$22,500.00.

In accordance with the recommendation of the city engineers, a cement testing outfit will be purchased by the Richmond, Ind., board of public works.

The Atlantic Portland Cement Co. will erect a cement plant near Stockertown, Pa., to cost over \$1,000,000.00. Contracts for building same have been awarded and work will be commenced at an early date.

The large \$800,000.00 cement plant, recently completed at New Castle, Pa., has been started. About 1,200 barrels of cement are being made daily, but this will be increased to 1,600 when the plant is in full running order.

The United States Portland Cement Co., has been incorporated at Denver, Colo., for \$800,000.00. The incorporators are William O'Carra, W. H. Spurgeon, William H. Kelso, Lee Champion and Joseph D. Blunt, of Florence.

The Pennsylvania Cement Co. is also "in the procession" of additional output. One new 125 ft. kiln has just been completed, two more of the same size are under way, and the present kilns are being lengthened to 110 ft. each.

The Egyptian Portland Cement Co., of Trenton, N. J., has resumed operations after being shut down about a year. They employ about sixty men and will run night and day in order to fill the orders which they have allowed to accumulate.

Stewart & Bros., of Easton, Pa., have the contract for the structural work for the new Atlantic Cement Co.'s plant. Ground has been broken and Dr. Bachman proposes to make the proposition one of the largest in the Nazareth district.

The cement users of Nebraska have formed a State association. The organization now has about 75 members. Any person in the State engaged in cement manufacture is eligible. R. B. Graham, of Lincoln, has been chosen president.

Next season will find another important factor in the East in the shape of a large cement producing plant in the vicinity of Pittsburg, under the efficient management of Mr. E. M. Hager, manager of cement department of the Illinois Steel Co.

W. W. Mackey, of Oklahoma City, I. T., representing a large cement company in Kansas has just returned from a trip through the Arbuckle mountains, where he says immense deposits of lime and gypsum exist in commercial quantities.

The city engineer of Minneapolis is urging a complete municipal chemical and testing laboratory for the city, with a special department for cement. He believes that such a bureau will be self-sustaining, if allowed to do work for private concerns.

A large concrete recreation pier and river wall of concrete are public improvements contemplated at Albany, N. Y. The plans will provide for one of the most attractive piers to be found along the river, to be beautified with considerable ornamentation in cement.

In line with the other Eastern mills, the Alsens-American works are making additions to their present plant on the Hudson, but owing to the present demand and necessity for the working of every part of producing capacity, there will be no increase until early in the coming season.

The Bath Portland cement plant, one of the latest in the valley, is producing over 3,000 barrels per day, and the regularity in its running and producing capacity, reflected great credit upon Mr. Franks, who built the plant and who is now superintending the operation of the same.

The Art Tile and Mantel Co., of Wheeling, W. Va., has been organized for the purpose of manufacturing cement tile, brick and building blocks with an authorized capital of \$10,000.00. The incorporators are: C. A. Wigenter, A. P. Beardsley, J. W. Meyers, and H. F. Meyers, all of Wheeling.

There is to be erected at Kansas City a concrete coal tower 130 feet high and 30 feet square. The weight of the coal above forces the coal below out into the dump cars, which will carry it to the furnace. It will supply forty tons of coal daily for consumption in the power house, and has a storage capacity of 1,560 tons.

Concrete

The Old Question of Curing.

We are repeatedly asked for a complete explanation of the best method for curing concrete building blocks, brick and other building material. The setting of cement is a chemical reaction, and is in fact the crystallization of the thoroughly calcined silicates which make up its entire composition. The medium indispensable for this crystallization is the presence of sufficient water to guarantee a saturated solution, i. e., the cement should be supplied with all the water it can use—the exact amount has never been definitely determined, nor is it possible to state how much water is necessary to a given amount of cement, for it seems to vary with atmospheric and climatic conditions. It is, however, a very well established fact, that it is impossible to give the cement more than the necessary amount of water, for in such a case it will simply use as much as it requires and ignore the balance of the water.

In the setting of concrete mixtures, we know that the cement is the only active member, the balance of the mass remaining as it was before it entered the mixture, inert, the thing acted upon or brought into the combination by means of the cement crystals formed in the presence of water, and these are perfectly formed only where there is a sufficiency of this necessary element. In monolithic or reinforced construction where the concrete mixture is poured between forms or molds pre-



ATTRACTIVE CONCRETE BLOCK HOUSE, ERECTED BY THE NEWSOM CRUSHED STONE CO., NASHVILLE, TENN.

pared for it in such a way as to allow all surplus water to drain away from the mass, there is little or no difficulty in supplying a sufficiency of moisture to obtain the perfect crystallization of all the cement contained in the mixture.

In using the dry mix or the semi-wet mix, where the materials only contain sufficient water to make the molded mass stand after it has been tamped into the metal receptacle on the molding machine, it does not contain sufficient water to produce complete crystallization of the cement contained, but it does contain sufficient to start the operation of crystallization. To make a good concrete it is indispensable that sufficient water be supplied to the concrete casting as soon as it is practicable, or immediately.

We have had frequent articles in these columns devoted to the highest practical efficiency in the curing of concrete building materials and again take this occasion to emphasize the principle of crystallization of the cement portion of the mixture as the indispensable step for securing permanently hardened and thoroughly uniform concrete material by the dry process. The occasional spraying of blocks where the crystallization has been suspended by reason of a lack of water, and where the blocks are laid out in the sunshine upon the yard at the factory is altogether insufficient.

The blocks should be made thoroughly wet as soon as they can be after they are molded and the wetness should be made to permeate every part of the block. Just to sprinkle the surface, or top will not do at all, for it is possible in this way to produce a good hard crust about one-half inch thick, where the moisture gets to the block, while the protected surfaces where the water never reaches, remain almost as inert as were the materials before it was put into the molding machine and tamped. Such curing merely makes a hard crust for an inside quantity of sand. This crust soon becomes practically impenetrable, so that the finished block really has no quality except as expressed by this outer shell or crust.

In hot weather the blocks or brick should invariably be placed under a shed where they are protected from the direct rays of the sun and repeatedly drenched with water for at least seven to ten days before they are allowed to dry out. It is quite as important to season the back side of the block as the face and the core holes should also be drenched with water for the same reason, especially the tongues which extend from the outer to the inner plate of the blocks. As we have said before, without a complete and intelligent seasoning of all the blocks which you manufacture it is preposterous to look for success in the manufacture of dry mix building materials. Water, and plenty of it, is the indispensable factor, and beside this it should be intelligently applied, whether it be in a steam hardening chamber, or whether it be by the repeated and continual application of a spray of tepid water.

The Stock of Blocks.

It often happens with manufacturers of concrete building blocks, where they have the capital and business forethought to accumulate a stock of the various sizes and shapes of blocks which are likely to be required in the ordinary lines of plain construction, to find that when they are getting out a bill of stone for any given building that quite a number of window caps, lintels, or ornamental features of various kinds, must be manufactured especially for the completion of the order in hand.

The blocks which have been in the warehouse or piled on the yard for some time, seldom, if ever, match these new pieces, which must be made after the order is received, and for that reason, the manufacturer hesitates to again accumulate a supply of blocks which he can not match exactly with corner or angle blocks or with window caps, or other appurtenances for the requirement as expressed by the plans of the building.

A representative of Rock Products found a concrete manufacturer in this kind of a predicament a short time ago, and upon the face of the returns was unable to suggest any solution of the mystery. However, upon a little investigation, it developed that all the sand that was used in the factory up to the beginning of the year was river sand, while that now in use was pit sand which they had secured at a lower price. A comparison of the two sands in question showed the difference at once, for one of the sands, no matter how clean it was washed, had a white yellow color, while the pit sand was a whitish gray. Of course, it was impossible to match the materials where 75 per cent of the composition was of an entirely different colored material. The sand supply in this case was the difficulty, and is no doubt the explanation of a similar trouble in many other cases.

Building Larger Quarters.

SOUTH BEND, IND., June 9.—The Edmunson Concrete Machinery Co., who manufacture a very ingenious machine for the manufacture of concrete building blocks either in the shape of a hollow block or for two piece wall, report that business has been very good with them and that they have moved in to their new factory just completed which gives them ample room for the building of their machines and to take care of the probable increase of capacity that will have to come later on. Their property adjoins the Vandalla Railroad which makes it very convenient for them to ship in carlots.

The record which this company has made is that wherever they have sold one machine it is only a short time before the same customer wants more of the same kind.

The Gainesville Consolidated Cement Stone Co., of Gainesville, Texas, has been organized with a capital stock of \$2,000.00. The incorporators are W. J. Scott, J. J. Raiser, P. H. Gilbert and J.

M. Morris. They will engage in the business of concrete contracting and manufacture artificial building stone.

Has Invented a Silo Block Machine.

ZEELAND, MICH., June 12.—Mr. Chris De Jonge who is the most successful concrete contractor in this neighborhood has invented a machine to make curved concrete blocks with which he builds silos for the farmer in which business he has built up quite an extensive trade and we are illustrating on this page one of the silos which he recently put up in Michigan which was reinforced with iron rods so as to make it perfectly safe and strong. Besides this extensive department of his own creation, he operates a Miracle cement block machine, also a tile machine and has built a number of houses that have been very satisfactory to parties for whom they were built. He says that his interest in the cement stone business is increasing and he can see that there is a good reliable profit to be made in it by the right man.

Constantly Increasing Capacity.

CHICAGO, ILL., June 11.—The Hotchkiss Concrete Stone Co., the well known manufacturers of concrete commodities and general contractors of concrete construction of every description, who keep their general offices in the Manhattan building, remark that they are having a very prosperous season and that expansion is the order of the day with them. The genial secretary-treasurer of the company, Mr. Wm. S. Hotchkiss, in his own happy vein, tells about it as follows: "Business is certainly fine with us and I have gotten to be a believer in this kind of expansion at least. The first of the year we started in operation a new plant at Conrad, Ind., with a capacity of about four cars per day. We ran eight pneumatic rammers turning out railroad work, building blocks, sills, caps, water tables, etc. On April 1 we



CONCRETE BLOCK SILO, ERECTED BY CHRIS DE JONGE, ZEELAND, MICH.

found that we had so many orders on hand, which it would be impossible to fill with the already large equipment contained in two active plants and decided that it would be necessary to get another factory started as quickly as possible.

"After a thorough search of the locations within reach of Chicago and applicable to our needs, we decided upon a very fine sand and gravel pit at Warrenville, Ill., with good railroad connections with the city. We secured a large tract of land and have put in a plant of modern equipment and with facilities for shipping both the manufactured material and the sand and gravel into Chicago and to other points. With the facilities that we now have we can take care of the western business from the Warrenville plant and the eastern and southern business from Conrad, Ind. The present indications are that we will have to run both plants to their utmost capacity to keep up our orders. The Warrenville plant was dedicated at high noon to-day in due form by the breaking of a bottle over the front door; (none of the contents got away)."

An Interesting Piece of Concrete Work.

Augustus Smith & Co., contractors and builders now at 49 Broadway, New York City, but formerly at 39 Cortlandt Street, have just completed a very important contract for the government of Bradford, Rhode Island, in the shape of two concrete buildings for the storage of coal, each 725 feet long by 87 feet 6 inches wide and 69 feet high. This isolated spot was only a meadow along the coast, and when Mr. Smith went up there to look over the ground before bidding on the job, the first thing he thought of was where he was going to get his material from. He found rocks and boulders along the coast, stone ridges running in every direction and a gravel hill which afterward turned out to be a gold mine for him, as he found not only the gravel he wanted, but an abundance of the finest sand he ever handled. When he secured the contract he immediately installed his machinery at the hill and began to quarry out the stone. They then proceeded to screen and wash it, and all that was too large and all boulders picked up on the coast together with the stone in the walls on the reservation were crushed to the size required in the specifications, this crushed stone together with the sand taken out of the hill were transported to the site for the buildings on industrial railway cars brought up for that purpose.

The buildings are of steel construction built on concrete piers, there are sixteen rows of piers each row composed of fifty-nine piers, 6 ft square on base and 4 feet 6 inches deep, all the ground area under the buildings is covered with 6 inches of concrete pavement. The building was put up altogether with the Clinton System electric welded wire. A peculiarity of the building was that the floors were sloping and built in place. The walls were built of 4 inch slabs set in place after hardening in forms. It required 3,764 slabs 4 inches thick and 4 feet square with twelve or sixteen to a panel. Each slab was made to fit in a certain place and was numbered and set up accordingly, it requiring about 204 patterns.

Each building is divided into ten compartments, and the storage capacity of the two buildings is 40,000 tons with an additional emergency capacity of 20,000 tons more.

This firm also built a wharf 400 feet long and 50 feet wide built in the shape of an L, and also a connecting wharf. Both wharves are built of granite piers with steel girders and a wooden dock.

Mr. Smith himself was the engineer and designer, and Mr. Howard Gibbons was the superintendent in charge of the construction.

Water Improvements at St. Louis.

St. Louis, Mo., June 14.—The water department of the city of St. Louis is constructing enormous improvements to the system which furnishes the water supply, spending approximately \$1,500,000. At the present time all the water for the city is taken from the Mississippi, at the chain of the rocks that is located at the extreme northern part of the city. The water is pumped into settling basins and from there is led through an eleven foot conduit to Bissell's Point where it is distributed through the city mains. Should anything go wrong with the water supply it would put the city in a very bad fix and for protection against any such emergency, the present improvements are being put in.

Mr. W. James Brennan, superintendent for the Parker-Washington Co., of Chicago, St. Louis and Kansas City, gives the following account of the work under his direction:

"Our work begins at Baden and runs to the chain of rocks. We are putting down 20,000 feet



JAMES W. BRENNAN, ST. LOUIS, MO.

of steel pipe, 7 feet in diameter, which comes from the Carol Porter Co., Wellsville, O., in 28 foot lengths, each of these sections weighing about 7½ tons. The steel plates from which these pipes are made are calculated for a tensile strength of 52,000 pounds per square inch made by the open hearth process, ½ inch thick, single and double riveted to make the required strength. The handling of this ponderous iron caused the city to build its own line of railway alongside the work for all the materials and the machinery that will have to be transported are naturally very heavy. Most of the pipe steel has been unloaded at night up to this time.

"The excavations for the laying of this pipe vary from 12 to 22 feet deep and the dirt is taken out with a Vulcan steam shovel. The pipe layers follow closely behind the steam shovel and then the riveters and caulkers who use pneumatic hammers that are driven by two large air compressors follow. The testing of their work is kept up continuously by means of temporary bulkheads with the water under thirty pounds pressure. The pipe is caulked until perfectly tight at this pressure when the water is released and the bulkheads removed to the next section to be tested.

"There will be a steel bridge of 137 ft. span over Moline Creek for the pipe to rest on and this bridge will be entirely covered with reinforced concrete. The creek is very treacherous, as I have seen it rise seven feet over night, so we have put down two steel caissons, each five feet in diameter and 20 feet long, one on either side of the creek, driving them to solid rock. These we have filled with concrete. On top of these rest the abutments of concrete 24 feet long, 12 feet wide and 10 feet high. Beneath this bridge the bed of the creek will be paved with stone and the banks protected with riprap far enough to secure the bridge against all possible damage. We are using about 240,000 lineal feet of steel rods in the reinforced concrete work alone which will give you some idea of the immense proportions of the work. We have already reconstructed a large number of the chambers and are building two new basins at the chain of rocks besides the large basin at Baden.

"All this work is estimated to give a water supply to the city of St. Louis sufficient for over a

million inhabitants and it will also be one of the finest water supplies in the country. The water when it is taken from the Mississippi river is almost black, but when it leaves the settling basins it is as clear as crystal. After our work is completed this summer, it is estimated that there will be a gravity flow of about 5,000,000 gallons of water per minute to the pumping station. We are using Red Ring cement for all our concrete work and the mix is one part cement, three parts river sand and six parts crushed stone. One barrel of cement is figured in all our calculations as three cubic feet. I am having a number of interesting pictures made and some of them may be interesting to your readers."

New System for Coloring Blocks.

BENNINGTON, VT., June 6.—Mr. Harry T. Cushman, proprietor of the Golden Glow Ochre Co., of this city, claims that he has discovered a process for coloring, with ochre, the face of concrete blocks in any of the shades of red, brown or yellow, at very small expense and the colors so produced are permanent.

L. & N. Adopting Concrete.

The L. and N. Railroad Co. have made a contract with the Ferro Concrete Construction Co., of Cincinnati, O., for a five-story reinforced concrete office building and freight depot at Atlanta, Ga. 52x850 feet on the ground. Up to one year ago the engineering department of the L. & N. stood aloof from concrete construction, and this being the most important contract let this year, when taken in conjunction with a number of lesser orders, indicates that a majority of the future construction throughout the entire system, both of culverts, abutments and buildings, will be of concrete.

Activity at Louisville.

The Oliver Co., Knoxville, Tenn., concrete contractors, have actively begun the erection of the eight-story and basement concrete warehouse for the Belknap Hardware & Manufacturing Co., of Louisville, Ky. The Belknap Co. are very partial to concrete construction, having just completed a similar warehouse to the one now being constructed by the Oliver Co., which has just gone into commission. They assert that they are very much pleased with their new quarters and it is more than likely that all the other buildings of their enormous plant will likewise be constructed of reinforced concrete. The footings for the new warehouse now under contract are being put in with Kosmos Portland cement, which is also a Louisville product.

Big Factory for the South.

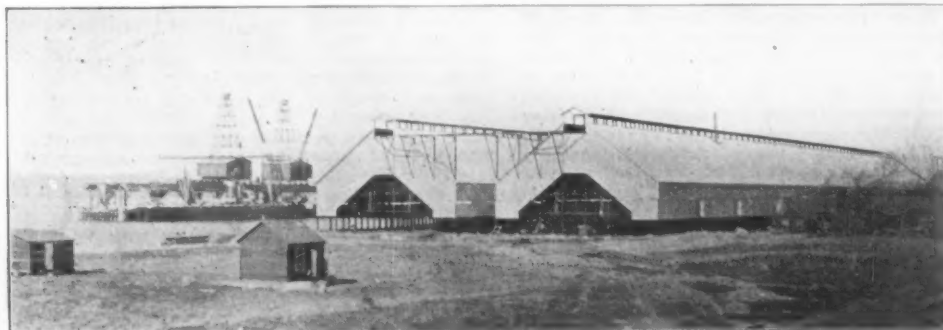
NEW ORLEANS, LA., June 2.—The Hollow Concrete Block Manufacturing Co. has been organized as a corporation under the laws of this State with a capital stock of \$50,000.00. They propose to erect a factory for the manufacture of hollow concrete blocks and other kinds of artificial stone. The officers of the company are: Albert Godchaux, president; Luigi Del Orto, vice-president; Arturo Del Orto, treasurer, and A. Zodiag, secretary. They have secured a location and will at once erect a large factory.

Enlarging Their Capacity.

COLORADO SPRINGS, COLO., June 10.—Colorado Brick and Artificial Stone Co., whose plant is located at Pikeview have made arrangements for doubling the capacity of their plant and the necessary money has been provided for. When the improvements are completed the company will be in a position to manufacture artificial stone of any desired shape or size, including columns, water tables, sills and decorative cornices of all kinds. The officers elected at the last meeting of the stockholders are: Clark Mellen, president; George W. Bierbauer, secretary.

The Ashtabula Concrete Construction Co. report the business in all kinds of concrete work as being fine. Mr. Rennick, the manager, was just leaving when we called, but said he believed the outlook was far from discouraging.

The Omaha Cement Stone and Brick Co., Omaha, Neb., has been reorganized for the purpose of manufacturing concrete stone, brick, etc. The capital stock is \$5,500.00. The incorporators are: Nels J. Peterson, Chas. Peterson, Peter J. Dennison and Otto Linde.



GOVERNMENT WORKS AT BRADFORD, R. I., BY AUGUSTUS SMITH & CO., NEW YORK.

Charleston Building Block Company.

CHARLESTON, W. VA., June 20.—The Charleston Building Block Co. have made enormous strides in the building block business in this city. The firm is composed of Mr. C. E. Rudesill, president; D. C. Boyce, vice-president, and J. G. Ally, secretary. They have a very large plant in West Charleston and are using the Palmer and Hayden building block machines with eminent satisfaction. To give an idea of the scope of their operations it is only necessary to say that they have not only built numerous residences, but have erected the Elk hotel, which is a three-story eighty room structure, a store and office building on Kanawha street and have begun operations on an immense building for the Baldwin Steel Co. which will be 350 feet by 120 feet and 18 feet high and a boiler house for the same concern which will be 40 feet by 80 feet and 18 feet high. In addition to this they have erected a hotel and business block at Clendennin, W. Va., which is about 20 miles from Charleston. They have also put in about one hundred foundations. They make all of their blocks at their factory and have a large force of men busily engaged the year round for this purpose. They are extremely careful in their manufacture and the success which they have made of their business is ample proof that they are turning out first class material. They secure their sand from the Elk river, which is close at hand and use a 1 to 4 mix. The blocks are then allowed to cure on the yard for from two to four weeks before any of them are put into the building. Each block is thoroughly tested and if there are any flaws or imperfections they are thrown out. Their business is firmly established and they enjoy the confidence of the architects and builders in that section.

Plenty of Business Ahead.

JANESVILLE, WIS., June 8.—The Rock County Concrete Stone Co. remark: "At the present time we are up to our ankles, head first, with orders and see plenty of business ahead. Our sand mountain doesn't seem to be the least trouble for the harder we dig the faster it rolls down upon us."

Put Your Good Work Above the Ground.

An experienced hollow block manufacturer says: "We are having in this trade a deluge of shoddy blocks put in cellars in any old way to save expense of brick, and this cheap work will not last on the cellars as a business. The place for concrete blocks is above ground, and if the block men can not make them as good as front brick they had better quit entirely, for there is no profit in cheap blocks. 'Cheaper than common brick?' 'Why, of course!' say the block men who work with cheap machines and turn out cheap blocks. But the trade has had a big dose of this fallacy, architects and builders are looking for a better product and even the small investor and owner of hollow block houses now knows better. Taking it all in all, the industry is growing safely, and it is not yet really started."

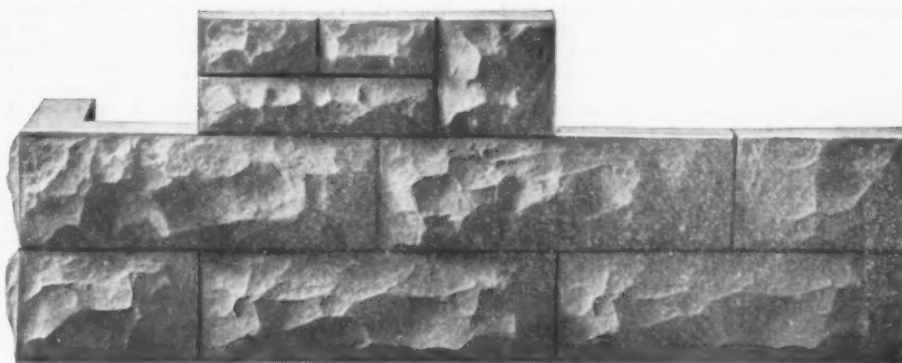
To Build a Concrete Bridge.

RICHMOND, VA., June 16.—The Concrete Steel Engineering Co., of New York, have submitted plans and specifications for the erection of a concrete bridge to connect that city with Manchester. The bridge will be reinforced with steel in two sections, the Richmond end being 505 feet long and the Manchester end 787 feet long. The width of the bridge on top will be 32 feet, consisting of a 6 foot sidewalk with a 20 foot roadway. The estimated cost is \$125,000.00. The matter is now being considered by the committees of the two cities that are to be connected by the bridge.

Require Larger Quarters.

MEDINA, OHIO, June 13.—The Medina Concrete Co., manufacturers of machines and tools for the manufacture of concrete building blocks, has purchased a tract of land upon which they will erect a three story factory building to accommodate their growing business. They state they are meeting with great success in the sale of their block machine which they have put on the market this season.

The Rockford Cement Stone and Brick Co., Rockford, Ill., have gone into the manufacture of cement building blocks, brick, tile and hitching posts upon an extensive scale. They are finding a ready sale for all the material that they can manufacture.



SOME SAMPLES OF MANDT BLOCKS.

THE MANDT TWO-PIECE WALL.

(Continued from Page 3.)

reason that as a large variety of blocks is required, every time a different block is made it is found necessary to change the forms and plates, which must mean loss of time and money. It further means that some blocks will not be seasoned as much as others and consequently some will break in the walls.

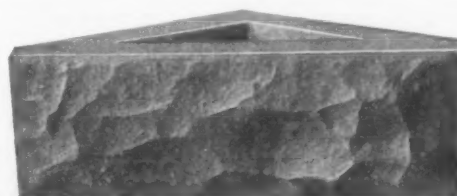
"Now a word for our system: We have a set or series of forms and molds. Each one of these molds is a complete machine in itself and the average daily capacity of each of our set of molds for making the Mandt will be found

so simple that any common sense man can operate it and make money. You will require no high priced mechanic to set it up for you as is the case with many of the high priced machines on the market. Our machines are adaptable to a number of them and are adjustable except octogon, which have to be to get the various radiuses required to make construction. The balance of the mold, as we stated, is built simply to manufacture the size blocks that are called for.

"One of the advantages found by the use of the Mandt mold is that they are portable so that either the block or the mold can be moved. Some people prefer to make the block direct on the plates and remove the mold, as they will naturally result in less breakage, however, it is found more preferable to make the blocks on benches and carry them off. In regard to plates: In the manufacture of concrete blocks with machinery, it will necessitate that the man using the machine will have to have cast, at his own expense two or three ton of iron plates, which of course means a large outlay of money, while in our system all that is required is wooden plates. One size of plate can be used for all sizes and shapes of molds.

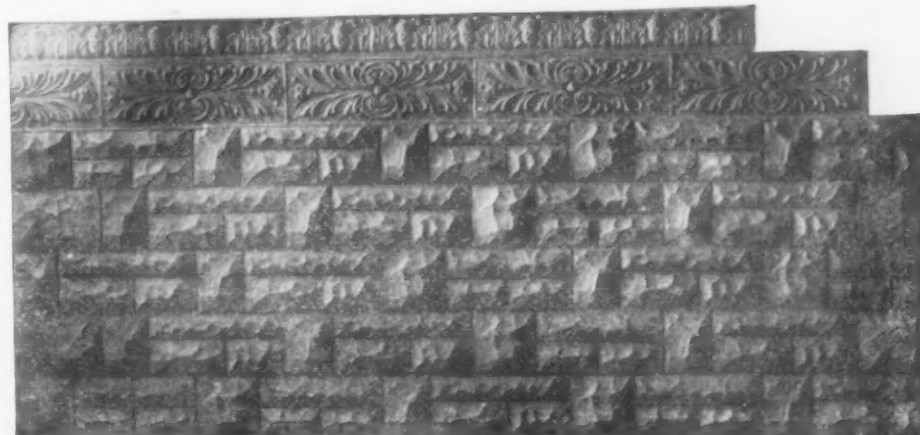
"We manufacture molds for all kinds of ornamental work, so that the man using the Mandt will not be handicapped, in fact, he will have a great advantage over most of the machine men. We manufacture molds for making base-bell caps, ornamental friezes, water tables, caps, copings, sills, ornamental construction and a large variety of molds for similar construction, and it will be found that we have made a specialty of obtaining the finest rock effects. Our patterns are not obtained from pressed tin as in the case of most machines, but are cast by artists in the line, from fine cut stone; further, we do not furnish only one of two of these patterns, but we furnish a large variety of these patterns, so that the blocks made will not have the appearance of imitation stone but that of natural cut rock."

The company has issued a complete catalogue fully illustrated and descriptive of their machinery and wall construction in all its phases, showing the system of applying iron joist hangers as well as for inserting wooden joist bearings two by four inches in the floor courses where



SINGLE MANDT BLOCK.

as a case of the 24 inch mold to be 300 feet of blocks while we have, with an experienced man, made as high as 424 feet. Remember this is strictly with one man handling the mold and carrying his own blocks. You can readily see what an enormous daily capacity our outfit has when we can furnish 10 of these complete molds. The advantage is very plain as by putting several men to work the corner stone of stones inside and outside blocks can be made at the same time and will all be seasoned alike. It will mean further that as a large job is being worked on that the contractor will not have to purchase two or three machines as would be absolutely necessary to make one half of the blocks that we can turn out with our general outfit. These molds for our machines are built of the very best material and are strong and because of the fact that there are no cogs, chains or wheels to be clogged with concrete and get out of order there will be very little repairing and because all these parts are eliminated the mold which we turn out is very simple, in fact,



SHOWING BROKEN ASHLAR FACE.

the Mandt-Powell system of construction is used. Every detail of practical construction has been taken into consideration, including patterns for ornamental friezes, water tables, window caps and the like.

The catalogue also includes a full set of tools and equipment for the use of concrete workers and manufacturers of artificial stone.

The guarantee feature which this company offers to its patrons not only guarantees the machinery in every particular, but at the same time guarantees the product of the plant when operating under the specific directions and methods which they fully explain to every purchaser of an outfit. This catalogue will be sent to inquirers upon application.

A Two-Story Block Residence.

Herewith is presented a prospective drawing and floor plan of a two-story hollow concrete block residence, with basement and attic by Mr. Henry Wittekind, licensed architect of Chicago. The front veranda has cement floor and steps. Plans will be furnished to accommodate any size block.

The first story contains large parlor, hall, library with open fireplace, built-in book-cases, and beamed ceiling; dining room with built-in side board, beamed ceiling and plate shelf; kitchen and pantry complete. There is a lavatory under front stairway, combination front and rear inside stairs. Sliding doors between parlor and diningroom.

Second story contains four chambers and bathroom, with modern plumbing. One chamber has fireplace. Clothes-chute extends from second floor down to laundry in basement with opening in same on each floor.

Interior finish in first story, except kitchen and pantry, is oak, with oak floors; kitchen, pantry and bathroom, Georgia pine with maple floors. Chambers finished in Georgia pine. Attic is floored but has no other finish. Basement contains servants' toilet room, laundry with stationary trays; coal room, furnace room and coal bins. Cement floor.

Width 32 feet; depth 36 feet, exclusive of bay window. Height of basement 7 feet; first story 10 feet; second story 9 feet.

Estimated cost \$4,200.00; heating not included.

Complete architect's working drawings and detailed specifications, blank builder's contract and bond, and all detailed information required for building the above house, will be sent prepaid upon receipt of \$30.00.

Competent Inspection Needed.

ALBANY, N. Y., June 5.—The Elmer E. Stanton Co. has commenced business in this, the capital city of New York, in the line of the manufacture of concrete building materials. A local correspondent says: "Mr. Stanton personally is a good authority upon composition materials and he has charge of the affairs of the new company. Much interest is shown in his demonstration and it is said that they are perfectly satisfactory to the building department of the city of Albany. This speaks well of Mr. Stanton's stone for no other concrete building material has been able to get a permit. Mr. Stanton recently remarked to the writer that more and more will be demanded of the concrete material man as the public accumulates information enough to understand the problem better. The time is coming when a certificate showing the amount and kind of cement used as well as the other materials that form the aggregate will be necessary to prove that a specific lot of building blocks is fit to be used in the construction of a building and that none but blocks so certified to will be allowed in the walls. A point which a great many of the concrete operators overlook is the proper bedding of the block in mortar when building it into the wall. This is a point of the most essential importance. City building departments should have expert inspectors in the concrete line to protect the public against bad construction as well as bad materials for nothing but good concrete stone should ever be passed and laid up in the walls."

The Concrete Construction Co., Memphis, Tenn., has been organized with a capital stock of \$50,000.00, to carry on a general concrete and artificial stone business. The incorporators are: E. S. Sutton, Chas. Chubbuck, L. Oppenheimer, J. D. McDowell, R. D. Caldwell, Z. N. Estes, A. H. Cross and Clarence Fleece.

George A. Raynor, Rice Lake, Wis., has purchased the plant of the Rice Lake Stone Co. He has purchased a tract of land containing a valuable gravel pit and will engage extensively in the manufacture of concrete building blocks and in the general contracting business.

Rokcement Stone Co., Brooklyn, N. Y., has been capitalized at \$100,000.00, by S. W. Burton, E. H. Peple, John Boswell, all of New York.

The Greenfield Artificial Stone Co., Greenfield, Mass., has been organized with a capital stock of \$20,000.00 by Frank O. Wells and Irving L. Bartlett and others. They will manufacture artificial stone and carry on a general concrete contracting business.

The Rebhen Concrete Building Co., Pelham, N. Y., has been organized with a capital stock of \$100,000.00 for the purpose of manufacturing and contracting in the construction of concrete building materials. The members of the concern are: Clinton Falk, Roy F. Lepson and Floyd Price.

The Coatesville Concrete Construction Co., Camden, N. J., has been organized with a capital stock of \$150,000.00 to manufacture brick, concrete and concrete blocks and engage in the business of contracting. The contractors are: A. B. Walters and A. Grigg, of Philadelphia, and Wm. B. Macdonald, of Camden.

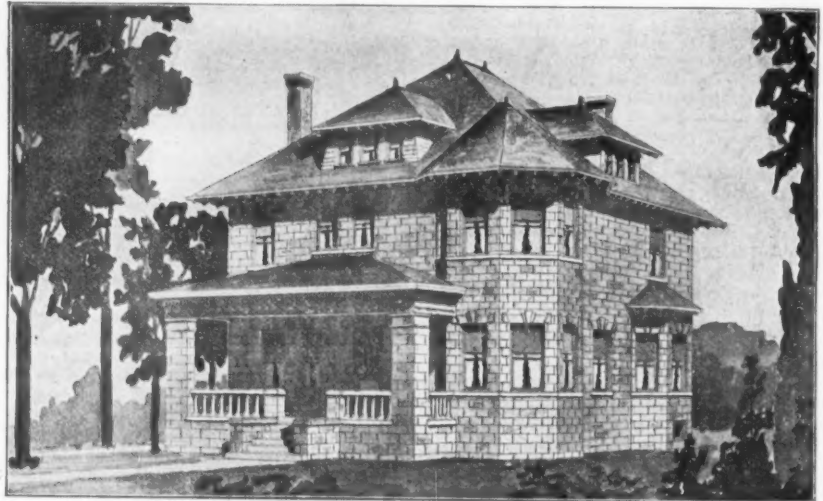
The California Peerless Stone, Tile and Plaster Co., San Francisco, Cal., has been incorporated with a capital stock of \$100,000.00 to manufacture artificial stone of every kind, but principally the use of Portland cement. The following are the directors of the new company: D. R. Coniff, John P. Harrigan, A. L. Kriess, F. H. Hoxwell and J. H. Carroll.

The Phoenix Building and Construction Co., Newark, N. J., has been incorporated with a capital stock of \$50,000.00. They will erect a plant that will be in the personal charge of Mr. Thos. E. Jones, and will manufacture and deal in artificial stone, brick and other building materials, and will engage in the improvement of real estate.

The Abilene Cement Stone Manufacturing Co., Abilene, Tex., has been incorporated with a capital stock of \$10,000.00, by Seth Kirk, Hugh Emerson and John W. Barnett.

The Cleveland Concrete Building Block Co., 101p Rockefeller Building, Cleveland, Ohio, report business in its element, and have orders ahead for the first class of building blocks which they are turning out.

Mr. W. S. Humbert's business both in cement and concrete blocks, which he handles in Buffalo and Niagara Falls, N. Y., is constantly increasing, and he takes a very favorable view for a good year. His concrete block plant at Niagara Falls, at which he uses the Dykema machine solely, has a daily capacity for 30,000 blocks of varied kinds and shapes, and he is in a position to fill promptly orders for almost any quantity of blocks.



MODEL RESIDENCE MADE OF CONCRETE BLOCKS, DESIGNED BY H. WITTEKIND, CHICAGO, ILL.

Brick

Sand-Lime, Cement.

Take Heed, Poor Subjects.

In all ages, since the creation of the world, there have been prophets, philosophers and fortune tellers, who have arisen in their wisdom and power and foretold not alone the future of men and events, but have spoken words which appalled the civilized world. It is true that there were some doubting minds, who refused to be impressed by the prophecies, but these were of such minor importance as to cause the wizards only a smile of disdain.

Perhaps the latest of the soothsayers to make his appearance on the horizon is one Luke Houze, hailing from the province of Monterey, Cal., on the western coast of our planet. He has arisen in his might to crush, to verily annihilate and consume the makers of all products known as sand-lime, sand-cement brick, concrete and other materials entering into modern construction which combat the elements of fire, heat, cold and water.

This one Houze, who is to upset the best laid plans of poor, weak mortals, gives promise of working miracles in building construction, such as to make the nations stand aghast. After years of patient toil he has perfected a brick, the composition of which is held in the secret archives of his massive brain, which will make all structures immune to the elements.

So easy of operation and so plentiful is the supply of this magic earth in his province that it will soon overrun the world, and cause the immediate cessation of the manufacture of all other so-called fire proof materials.

Sire Houze recently summoned a deputation, to which he gave audience in his imperial palace, and then and there did give such conclusive proof of his discovery as to cause consternation among the assembled subjects. What further evidence could be desired—the world greets its newly arisen saviour with maddening applause.

Now let the unwary beware and take heed lest they be caught in the act of opposing the progress of this ingenious marvel in the building world. All who are now engaged in the manufacture and sale of sand-lime, sand-cement brick, concrete in all its forms, must see their inevitable failure. Before this wonderful gift to the people of the twentieth century, all else is blank failure, and already can be heard the cheers of the multitude as it is launched forth with cymbal and horn.

Meeting With Deserved Success.

It is gratifying to note the progress being made by the sand-lime brick industry in all sections of the country. Among the progressive plants, whose output is meeting with deserved success, is that of the Winchester Granite Brick Co., of Winchester, Ky. This organization has forged ahead with increasing demands for its output and many large structures have been erected which attest the value of their sand stone brick.

We are presenting herewith two pictures of attractive residences erected at Winchester, Ky., in which their brick were used. These brick were laid in white mortar with quarter joints, and present a most pleasing appearance. The color of the brick is a medium slate gray.

This company are making shipments of cream white face brick, and are experimenting with other colors, which they hope to soon have on the market.

In speaking of conditions with them they say: "We now have upon the ground over 300,000 brick. Our sand trade is growing right along. The workers in concrete are finding that it is the very best sand in this part of the country for such work, having the peculiar property that makes a bond with cement, and lime, too, that very few other sands have. This makes a concrete that has the appearance both in color and texture of Bedford stone. We are shipping from two to three cars per dy, and have just taken a contract for concreting work that will require some 300 cars to fill. So you see between the brick and sand we are doing some business. We hope before another year shall roll around to show a growth that will be very pleasing to the stockholders of the concern."

Spain Would Supply Us Bricks.

Consul-General Ridgley sends, from Barcelona, a letter he received from a brick manufacturer in that city, offering bricks for sale for use in rebuilding San Francisco. The Consul-General speaks highly of their light gray bricks, which he says resemble unpolished marble blocks. There are two lines of steamers from Barcelona, Spain, to New York, and two lines to New Orleans. A ship broker in Barcelona says that a tramp steamer could be chartered on a basis of 12 shillings (\$3.00) per ton. The manufacturer's name, if any one wishes to get figures from him, is P. La Rosa Pich.

European Sand-Lime Brick Plant in Central America.

Consul Demers, of Barranquilla, Colombia, says that the sand-lime brick industry is being developed in that Columbian city by a European concern which has imported its machinery from Germany. The present capacity of the plant is 6,000,000 bricks per annum and the selling price \$6.00 per thousand.

Under a twenty-year concession they operate 150 acres of inexhaustible limestone and sand deposits which they purchased. The mixture of sand and lime is kneaded together under steam pressure in a powerful mixer, compressed into shape, run on cars into hardening cylinders, where the bricks are kept for ten hours under 130 pounds steam pressure. The bricks are the standard European size, 10x5x2 1/2 inches.

The company enjoys fine shipping facilities, the Barranquilla railroad running through their property, and the rate of freight to the port of Puerto Columbia, eighteen miles distant, is 80c per ton.

The proximity of this port to the Isthmus of Panama offers great facilities for obtaining these bricks on the canal zone, at a price which the proprietors believe can be made lower than if imported from any other part of the world. Small crafts not drawing more than ten feet of water can at certain times of the year, enter the Magdalena river and load bricks direct at the brick yards, which has an extensive water front.

Barranquilla offers wonderful advantages for the manufacture of sand-lime bricks, as the geological formation of the country for miles around the city limits, is of coral limestone covered with a stratum of sand to the depth of about six feet. Fuel is abundant, nara wood costing in big lots \$1.00 per ton; and plentiful and efficient labor, seemingly far superior to the Jamaican labor, is to be obtained at an average of 60c per day.

Install Big Mixer.

GUELPH, CAN., June 14.—The Guelph Cement Brick and Paving Co. has just received one of the largest automatic self-mixing concrete machines made in Canada, which they will use for mixing the cement with the gravel and sand. This machine will mix concrete at the rate of 150 cubic yards per day. It is the only power mixer ever used in Guelph and will mix concrete as fast as five men can wheel it away, and as cement work is in great demand this machine will save a lot of work that is done by hand in Guelph at present. Every batch is mixed exactly the same, and there is no fear of weak spots in the walk as so often occurs when it is mixed by hand. The demand for this company's output is showing a steady increase and the stockholders are much pleased over the prospects for the future.

Closed a Prosperous Year.

GLEN FALLS, N. Y., June 8.—The Granite Brick Co., of this city, has just closed a most successful year's run at its large plant. At a recent meeting of the directors, the following officers were elected: Daniel P. De Long, president; Grenville M. Ingalsbe, vice-president; A. Z. De Long, secretary and treasurer. The demand for their brick is increasing and the output has been giving the greatest satisfaction. The company anticipates a better business during the coming year.



VIEWS OF TWO RESIDENCES ERECTED AT WINCHESTER, KY., WITH GRANITE BRICK, MANUFACTURED BY THE WINCHESTER GRANITE BRICK CO., OF THAT CITY.

Operating Plant on Modern Lines.

GLEN FALLS, N. Y., June 2.—Glen Falls' newest manufacturing concern, the Sand-Cement Brick Co., has just begun operations at its plant here. The plant of the Sand-Cement Brick Co. is self-operative throughout. The power is furnished by a twenty-two horse power electric motor connecting with a seven foot shafting wheel. The process of brick making is simple and continuous. Sand is brought down the canal in lighters and is transferred to the sand pit in the mill by means of a conveyor. From here an endless chain elevator carries it up to the screen and hopper, and then the good sand goes down to the mixing box, being joined here by the proper proportions of cement and coloring matter, the three ingredients adjusting their proportions by means of slowly turning screw-worms. In the mixing box another revolving worm brings the separate ingredients into a harmonious mass, a slight moistening of water being added by means of a self regulative pipe. From the mixing box a belt conveyor carries the unfinished product to the hopper of the machine and from here it is automatically fed into the mold.

The brick machine or press is the principal apparatus of the plant. As the moist mixture drops into the mold a wooden palette slips automatically under it just as the 180 ton pressure descends upon the mold. The pressure bar then lifts and the palette with its load of eight finished bricks is taken by an endless chain and carried into the outer shed where it is loaded on to cars. The machine is capable of turning out 25,400 finished bricks a day. On their arrival in the shed the bricks are sprinkled and left to harden. Their color is of a brownish sand hue. The new mill will employ about fifteen men.

To Rebuild Sand-Lime Brick Plant.

HANCOCK, MICH., June 6.—The plant of the Lake Superior Sand Lime Brick Co., erected at Ripley by the Michigan Sand Lime Brick Co., composed of Detroit, Saginaw and Bad Axe capitalists, which burned quite recently will be rebuilt at once. It is expected the factory will be in operation under a temporary structure in less than thirty days. Much of the machinery was ruined, but some can be utilized in the new plant. The entire output of the plant had been spoken for and the company proposed to double the capacity to 40,000 brick a day within a short time. Stamp sand is utilized in the manufacture of brick at this plant.

New Cement Brick Operations.

BLACKSTONE, VA., June 15.—There has been organized and put into operation here during the last few days a firm known as the Leigh & Gray Cement Brick Manufacturing Co. It is a new enterprise for Blackstone; yet it has a bright business future before it. Their output is large and already they have more orders than they can fill, this locality being peculiarly adapted to the making of this high order of cement brick.

The Hutchinson Lumber Co., of Hutchinson, Kan., will soon begin the manufacture of cement brick.

The Davis Cement Works, of Davis, I. T., has begun the manufacture of cement brick and are turning out 7,000 brick per day.

The Reinforced Cement Brick Co., of Vancouver, B. C., has been organized. The capital stock is \$50,000.00, fully paid up. Operations will begin in the near future.

The Standard Cement Brick Co., of South Bend, Ind., has been organized. The capital stock is \$6,000.00. G. J. Hoffman, Aug. H. Jordan and Wm. Wiegand are the directors.

The Hudson Cement and Brick Co., of New York, N. Y., has been organized with a capital stock of \$20,000.00. The company will manufacture cement brick, etc. N. Tyler, Jr., S. A. Verrallen, Baltimore, Md., and G. H. L. Morton, of New York, are the incorporators.

The Middlesex Stone, Brick and Tile Co. has been organized at Portland, Me., with a capital stock of \$250,000.00, none of which is paid in. The company will manufacture brick, concrete, tile, etc. The officers are: A. T. Torrey, of Boston, Mass., president and treasurer.

Sand and Gravel

Study the Quality of Your Sand.

For ages sand and gravel have been in prominent use in all countries on the globe, where building construction has been carried on to any extent whatever. When we consider Solomon's saying that "there is nothing new under the sun," it most assuredly applies to the sand industry in a forcible way. While it is true that this very essential commodity has played so prominent a part in all generations, it has been only within the past few years that any care has been given to its quality.

It seems a little strange that such was possible, for with the rapid growth of our cities, one would suppose that more scrutiny would have been exercised by those interested in and handling sand. It was quite probable that nearly every one gave the subject only a passing consideration and deemed one kind of sand as good as another. If faulty workmanship, entailing poor construction, was found, it seems never to have occurred to the architect or contractor that the sand was at fault.

Here lies, not infrequently, an evil about which too little consideration has ever been given. Sand must have quality, just as well as other building materials, though the idea may seem unreasonable to those who have never studied the subject closely. In our day, when every portion of a structure, even each commodity entering therein, is tested, sand comes in for its share of scrutiny as well, and it is well that such is the case.

In days gone by the operator in sand and gravel was a careless, happy sort of an individual who contented himself with getting out his sand and selling it without the least thought of it ever varying in quality. No complaints were ever made, so why should he worry himself with unnecessary trifles. His profits were fair, even good sometimes and he enjoyed a brisk demand for his output.

Such a condition of affairs could go on for a long period, but there is an end to all things and time brings many changes. One of these was the greater care in the quality of sand and the methods of handling same. The demand increased quite rapidly, and this necessitated a regeneration all along the line.

Now the modern operator is altogether another man. His plant represents thousands of dollars, and the contrivances with which he handles and sorts his sand and gravel, are of the greatest assistance to him. He grades and washes and screens his output with such nicety, that he can readily supply the desired quality for any special job, with satisfaction assured. He has learned that sand varies in richness, and in order to ascertain the various kinds care must be exercised to obtain results.

Reference is made to the progressive sand operator. There are many who as yet seem to overlook this important fact. Sand has quality. It must be studied more thoroughly in order to obtain popularity, and upon its popularity is based the operator's success. Let the sand man think of this and bestir himself if he desires to succeed.

Big Increase in Output.

The Dunbar Sand Manufacturing Co., Dunbar, Pa., are in operation again. Before the fire the output was 90 tons a day. This has been increased to 200 tons per day. Washed damp sand is turned out at this concern. This white sand is used by the glass house trade, as well as for moulding, mortars and building purposes.

The Schnectady Sand-Lime Brick Co., of Schnectady, N. Y., are compelled to operate their plant day and night to take care of their numerous orders.

Sand From Crushed Granite.

Experiments have been made on various occasions to manufacture sand from foreign substances, some of which have proven at least partially successful. Crushed sandstone has been found to make a most excellent sand for many uses. On account of its purity, cleanliness and strength it has found favor with a large number of operators in concrete, as well as for general building purposes where a superior grade of sand is desired.

But sand manufactured from granite is even a later experiment, which seems to have been used in mortar with the most gratifying results. According to reports granite spalls, washed and crushed make a sand of much greater strength than the best river sand.

This latest experiment is only in its infancy, but it shows the greater possibilities for this commodity. It proves that there is yet much to be learned about the sand industry and that its future is of more importance than many now deem it. It is not improbable that within a few years sand from crushed granite will become a very popular material in work where an extra quality is demanded.

Will Operate Big Plant.

TOPEKA, KAN., June 12.—The Stuart Peck-Southwestern Sand Co. will soon complete one of the largest sand dipping plants west of the Mississippi at this place. The plant will have a daily capacity of a train load of sand, and will cost from \$30,000.00 to \$35,000.00. The sand will be dipped from the bottom of the river by a sand boat operated by steam. The new company is owned principally by the Stuart and Peck Sand companies, of Kansas City and P. J. Monaghan of the Southwestern Coal and Fuel Co.

Company Increases Stock.

JEFFERSON CITY, MO., June 8.—The Jefferson City Sand and Gravel Co., of this city, has filed a statement of increase of capital stock from \$5,000.00 to \$20,000.00. The assets of the company are placed at \$20,000.00, and it has no liabilities. This increase was voted by the stockholders last month. Dr. Joseph P. Porth, as chairman of the meeting and F. R. Kay as secretary, certified to the increase.

Completed New Sand Operation.

OAKLAND, MD., June 1.—The Corinth Sand Co., whose plant is located about six miles west of Oakland, consisting of a new works and a refining plant, is preparing to ship vast quantities of sand to the various glassmaking centers of the country. The plant is about completed, and the Baltimore and Ohio Railroad Co. is putting in a new siding for the company's use. This is a new industry for this section of Garrett county.

Sand Plant Changes Hands.

ALTOONA, PA., June 9.—The plant of the Oremnia Sand Co., located at Oremnia, Pa., has quite recently been purchased by W. M. Cronisler, of Centre county. Mr. Cronisler will operate the plant on a large scale and anticipates doing a nice business. The main office of the concern will be located at 806 Twelfth street, this city. The plant will be under the management of R. A. Jackson.

The Richardson Sand Co., of Elgin, Ill., has just increased its capital stock from \$7,500.00 to \$50,000.00. The location has been changed from Elgin to Chicago. The directors now number five.

The River Sand Co., of Steubenville, Ohio, has been organized. The capital stock is \$25,000.00. George W. Moore, Abner F. McCoy, Wm. A. Fisher, Wm. H. Wells and H. G. Dohman are the incorporators.

The Silica Sand Co., of Brink Haven, Ohio, has just been incorporated under the laws of New Jersey. The company will install a \$25,000.00 sand-cement brick plant. The capital is \$50,000.00. Those interested are: E. L. Kern and A. Muernberg, of Pittsburg, Pa.

The Silicated Brick Co., of Denver, Col., inform us that they are enjoying a nice demand for their output. They have a large number of orders on hand and we hope in the near future to illustrate some structures in which their brick were used.

For the Retailer.

The National Builders' Supply Association.

Meets Semi-Annually.

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Official Organ, ROCK PRODUCTS.

Associations in the South.

Thus far there has been organized several state builders' supply associations in the East, which have given conclusive evidence of their need and value. The good work accomplished within a few months, or since the organization of the several associations, has been of inestimable benefit to the members. It can be seen, therefore, that what will improve conditions in one section of the country can not fail to help the supply dealer in other localities.

In the South the supply industry has grown with great strides within the past few years. This has been made possible by the enormous increase in construction work of all kinds. The continued growing scarcity of lumber has given this branch of the building industry an impetus, which has heretofore been unknown. New companies have been formed, and others have enlarged and increased their capacity and output, until the dealers are as numerous in the South as in any other section of the country.

But, unfortunately, they are not organized so as to improve their business and obtain better and more uniform profits. Many of them are without sufficient knowledge of the profitable kind, so as to be in a position to compete with their fellow dealers intelligently. They have small or poorly constructed warehouses; they need practical enlightenment, which is often obtained by co-operation. In a word they need an association.

The importance of the supply business is now recognized. Its representatives are intelligent men and thorough co-operation have done much to make it one of the leading branches of the building industry. It has been perfected by this mutual assistance and many evils have been crushed by the parent, or national association. Others are being overcome, which without united strength, would have greatly increased.

Let the supply dealers of the South come together, if not in single state associations, at least several states, combine their efforts for a move in this direction. It is the needful thing; it is the tie that welds into an insoluble union the scattering fragments, and bands them together in strength and might. The gains are far in excess of the trivial inconveniences of the undertaking.

Something New in Sewer Pipe.

Among the large manufacturers of sewer pipe whose product is gaining in popularity, is the Post Pipe Co., whose extensive operations are located at Texarkana, Tex. The output of this plant is different from that of most others, from the fact that the pipe has a lighter color than sewer pipe in general use. This is no doubt due to the fact that the clay used in the manufacture of their pipe is largely composed of a very high grade of potters clay; in truth it is almost white in color.

By the addition of shale clay the color would be darker, but this would detract from the strength of the pipe as well as its shape, causing blisters and cracks. The pipe now manufactured by this concern is singularly free from these defects.



E. E. EVANS, A FORMER VICE PRESIDENT OF THE NATIONAL BUILDERS' SUPPLY ASSOCIATION, BAY CITY, MICH.

It might be that the light color of this pipe would prejudice some people against its use, but there is no reason for such, as the tests made of the Post Co.'s product proves it to be of the highest order.

The business of the company is steadily increasing, and their advertisement, which appears on another page, gives in a detailed way, some data regarding this valuable asset to the builders' supply business.

The organization is backed by ample capital and they operate a large and well equipped plant. The officers are: L. W. Post, president; L. R. Blackmar, first vice president; J. T. Wallace, second vice president; S. R. Payne, secretary and treasurer; M. P. Post, superintendent.

Supply Dealer in Stone District.

BLOOMINGTON, IND., June 18.—J. Otto May is the leading dealer in builders' supplies in this city. He began business last fall and has steadily increased his trade in this locality. Among the supplies handled by Mr. May are U. S. Gypsum Co.'s plaster, Hercules and Elyria plaster, U. S. Portland cement and Mitchell lime. Mr. May was formerly in the stone business, but finds his new occupation much more to his liking. He looks forward to a steadily increasing business.

The Builders' Exchange of Toronto.

The Toronto Builders' Exchange may be said to have originated from the old General Builders' Society, which was established in 1867; at a later date was formed the Federated Builders' Association, says the *Canadian Architect and Builder*. The Federated Association was merged into the Builders' Exchange in 1892, when the Exchange became incorporated.

The Exchange at first occupied offices at Victoria Street near Adelaide Street; later, more suitable premises were taken on Victoria Street near King Street. The present premises are entirely inadequate for the largely increased membership, and the board of directors are negotiating for premises which will give ample accommodation for all branches of the building trade. The new premises will comprise offices for the various sections, together with board room, estimating rooms, committee room and a large general assembly room.

The management of the Exchange is vested in a board of directors which meets monthly. The following committees deal with such matters as come within their province; finance committee, legislation committee, labor committee. The usefulness of the exchange has been manifested in many instances. The advisability of adopting a uniform contract form has been for some time very apparent, some of the contracts which builders have been called upon to sign having been notoriously unfair.

By mutual agreement between the Architects' Association and the Exchange, the "Revised Contract" was amended in 1904 and this form will be used in all future contracts. The adjustment of labor difficulties in connection with the building trade has also been a feature of the Exchange work. It has always been recognized that a policy of fairness and conciliation in treating with their employees is the best, and the Exchange has endeavored to carry out this principle, although when the demands of organized labor were unreasonable, the Exchange has always declined to accede to such demands. The usefulness of the Exchange in every-day affairs becomes daily more apparent.

Apart from other considerations, the daily association of men engaged in similar lines of industry must, naturally, result in better feeling, and broader and more liberal views in business matters. In proportion to the interest taken in Exchange work by the members will its usefulness be extended.

The large amounts of money expended every year in building operations, and so large a percentage of the population being employed thereon, the Builders' Exchange must necessarily be an important factor in the future of Toronto.

The act of incorporation states that the purpose of the Exchange shall be to "inculcate just and equitable principles, and to promote good feeling and harmony among those engaged in the building trade, to the end that membership in this society shall be an assurance to the public of skill, honorable reputation and probity."

These principles, if carried out in practice, must prove beneficial to all the trade, and fully justify the existence of the Exchange.

The present officers are: President, George Duthie, manager of the Roofers' Supply Co.; first vice president, Thomas Self, of Self Brothers, contractors; second vice president, C. W. Batt Toronto Junction, contractor; secretary, J. L. Phillips; treasurer, James Crang.

Enjoy a Profitable Business.

CHARLESTON, W. VA., June 20.—The Elk City Sand and Lime Co. are large operators and dealers in sand, lime, sewer pipe, firebrick, cement, fireclay and plasterers' supplies. The firm is composed of L. L. Price and J. F. Hudson. They are both hustlers and stand high in the business community. Their offices are at the corner of Virginia and Summers streets and their plant is in West Charleston. They secure their sand from the Elk river by means of dredges and it is of a very fine quality. They are agents for the well known Lehigh cement and Fostoria brand of lime. Their business has been exceptionally good throughout the season as there is an immense amount of building going on in Charleston, and this firm enjoys the confidence of all the large builders and operators in that section.

Progress Reported in the Quaker City.

PHILADELPHIA, PA., June 12.—The builders' supply dealers here are all enjoying a nice business. The building season has been most favorable, so this branch of the industry is consequently booming.

The Walter T. Bradley Co., with yards at 9th Street and Green Avenue, and Ridge and Columbia Avenues, in addition to their extensive coal business, also handle large quantities of several of the leading brands of American Portland cements. This is one of Philadelphia's most progressive concerns handling building materials. They report business as good.

P. H. Fairlamb & Co., 30th below Market streets, through Mr. Lewis, say that they are sharing in the general business prosperity in builders' supplies and have about all the business they can take care of at this time.

Messrs. J. R. Clausen Co., 2000 Market street, report the most favorable conditions in all branches of their builders' materials line and predict a very healthy financial season.

Mr. A. Blair, of 9th and Jefferson streets, while snaring in the general prosperity of the trade, has not been overly busy, owing to not having carried any particularly heavy stocks of material during the early months of the season.

"Busy as can be," is the report of Messrs. Hugh Bond & Son, and this statement is carried out by the amount of plaster and Atlas Portland cement that is handled by this progressive firm at all seasons.

A Popular Organization.

CHARLESTON, W. VA., May 31.—One of the most important concerns engaged in the business of supplying building material in Charleston, and one enjoying increasing prominence in business circles is the Elk City Sand and Lime Co., whose general office is located at the corner of Virginia and Summers Streets. This well known concern which has been in existence for some six or seven years is now composed of L. I. Price and J. F. Hudson, the latter's connection dating since last year. The company are dealers in plaster, lime, cement, sand, sewer pipe, fire brick, fire clay, and other material, a specialty being made of high grade Portland cement, and their trade is a commanding one at the present time in the lines enumerated. The company has dealings with all the builders and contractors, and their supplies have entered into the construction of some of the largest buildings in the city. Their supply yards and sheds are located on the line of the K. & M. railroad, at Park Street, and being possessed of the best possible facilities for handling their orders, have built up a nice business in this section of the country.

The Standard Improvement and Artificial Stone Co., of Jersey City, N. J., has been organized with a capital stock of \$125,000.00. The company will deal in builders' supplies, do contracting, etc. N. Miucci, E. Erickson, A. Higson, Jersey City; J. R. Vaccavelli and E. A. Monfort, of New York City, are the incorporators.

The Charles Gehlhaur Co., has been organized at Cliffwood, N. J. The company will deal in builders' supplies. The capital stock is \$125,000.00. Those interested are: Otto F. Gehlhaur, John J. Hettrick, Wm. A. A. Gehlhaur and Wm. Sandlass.

The Munday-Teague Co., of Asheville, N. C., has been organized with a capital stock of \$25,000.00, of which \$7,500.00 has been subscribed. The company will manufacture and deal in building materials.

W. McNally & Co., dealers in builders' supplies at Montreal, Can., sustained a loss by fire of about \$10,000.00 on their warehouse quite recently. The large stock of cement, plaster, etc., were practically ruined. The loss was covered by insurance.

G. Duthie & Sons, of Toronto, Ont., well known roofers and dealers in builders' supplies, have organized an incorporated company under the name of G. Duthie & Sons, Limited. The capital stock is \$40,000.00. The directors of the company are: Messrs. George Duthie, J. B. Duthie and R. R. Duthie.

SALT.**A Salt Experiment.**

SANTA MONICA, CAL., June 7.—A unique experiment in an effort to concentrate the water of the ocean into salt for commercial uses is about to be made along the beach above Port Los Angeles. The plant is to consist of a strip of yard-wide muslin having a length of about 1000 feet. This cloth to be stretched taut between two stringers 36 inches apart, made fast to posts set in the sand along the beach. The stringers, which are to be grooved and perforated, have a slight incline. At the upper end of the evaporator and above the muslin conveyor and the upper rail a tank will be erected. Into this the sea water will be pumped.

An outlet at the bottom of the tank will permit the water to leak slowly into the groove of the rail, and the minute holes in the trough of the rail will let the sea water trickle upon the muslin screen. The breeze, fanning the moistened muslin, will assist the sunshine and the exposed muslin surface in the evaporation of the water. The brine will then drip from the bottom of the muslin into the trough of the bottom rail, which will carry the saline charged water to a vat at the lower end of the line of muslin, where the evaporation will be completed by means of either artificial or solar heat.

Sea water, in the original state, as pumped into the tank, carries 3 per cent of its weight in salt, and the theory is that the process of open air evaporation will result in condensing the liquid to such an extent that by the time the brine reaches the vat it will have been divested of at least three-quarters of its weight. It is thought by the promoters of the experiment, that by the



VIEW OF THE BUILDERS' SUPPLY HOUSE OF BERNARD BROS. & MERCER, BURLINGTON, IOWA.

use of this gravity plant it will be practicable to evaporate sea water and produce in quantity the purest of salt for commercial uses at a substantial profit.

About Mexican Salt.

GUADALAJARA, MEX., June 15.—Salt will be high in Mexico this year. The Colima salt yield, which controls the Mexican market, will not be half that of last year. Colima salt is now selling in the City of Colima at \$5 a carga (300 pounds), and in Guadalajara at \$11 a carga. The prices are certain to advance considerably within the next sixty days.

Last year the Colima salt production amounted to approximately 7,500,000 kilos or 7500 tons. This year it is estimated that the production will not exceed 3,500,000 kilos. Rains early this year delayed the work of gathering salt until after April 1, and the regular rainy season is commencing along the Colima coast. The rains will soon put a stop to the work.

The Colima salt is only 70 per cent pure and is coarse. The salt secured on Carmen Island, in the Gulf of California, is 98 per cent pure and is much finer. However, the Colima salt is preferred above that from Carmen Island and brings the best prices throughout the Republic.

Where Salt is Scarce.

Salt is the greatest luxury known in Central Africa. In some sections among the poorer inhabitants salt is never used. Even among the better classes, a man who eats salt with his food is considered a rich individual. In some tribes where salt is not so scarce children are so fond of it that they may be seen eating it like our American children would pieces of lump sugar.

Roofing.

The National Association of Master Composition Roofers of U. S. A.

Emil Machwirth, Buffalo, N. Y. President
P. LaGoulle, Pittsburg, Pa. First Vice-President
H. C. Smither, Indianapolis, Ind. Second Vice-President
W. K. Thomas, Chicago Ill. Secretary and Treasurer

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E. S. Bortel, Philadelphia, Pa.
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Official Organ, ROCK PRODUCTS.

Roofers' Meeting Next Month.

The dates of the meeting of the National Association Master Composition Roofers of the U. S. A. have been changed from July 14, 15 and 16 to July 16, 17 and 18. The meeting will be held at Buffalo, N. Y., and will be the largest and most enthusiastic session ever held. The best accommodations have been secured and everything possible will be done to make the meeting pleasant for those attending. It is hoped that every roofer in the country will take advantage of this opportunity to combine pleasure with business. Go and do what you can to improve the conditions of this important industry.

Consider These Points.

There are several things the roofing contractor should keep before him continually at the present time. These are the increasing cost of materials; difficulty of obtaining proper laborers at reasonable cost and a profit for his work to more than offset these other conditions. During the present season the cost of materials has steadily increased and of the difficulty in securing help he is fully aware.

If he has not advanced his prices accordingly, what will his season's work profit him? Possibly he does not think of these things when he figures on a contract. It seems strange, however, why he should not, in the face of the season's business and conditions generally. Simply working and turning his money over is a useless undertaking. Suppose he has purchased his materials at a smaller cost than his competitor, will it pay him in the end to sell them or take a contract at a reduced price, in order to beat the other fellow? Does not his stock advance in value with the market increase? He can not fail to see this if he weighs the subject at all carefully.

Strive to uplift and uphold the general tone of the industry. No man profits by taking a single contract below cost. He injures himself far more than he realizes and his next contract is more difficult to obtain at all if he endeavors to secure a profit on it. Profitless labor is the most absurd of all business transactions conceivable. Get a profit or cease to accept contracts at all.

Change Name of Company.

MUNCIE, IND., June 2.—On account of some changes in the R. Beebe Roofing Co., the name of that organization has been changed to the Muncie Roofing Co. J. S. Miller, of Marion, Ohio, a well known roofing contractor, has recently purchased a half interest in the company, and considerable money will be expended in enlarging the operations. The business done in the past has been quite satisfactory, but the new concern are confident that this can and will be very materially increased in the future.

The Patent Vulcanite Roofing Co., of Chicago, Ill., has increased its capital stock from \$100,000.00 to \$150,000.00.

The Cement Shingle.

It is rather strange that the cement roof was the last of the cement commodities to be exploited. Every other portion of the building, the walls, the floors, in fact everything but the roof are being built of cement. They have long passed the experimental stage and to-day cement construction is as widely known as any other kind of building material. The reconstruction of San Francisco will see cement commodities placed at the very top of all construction materials. Tests have proven that of all building materials cement alone is both fire and water proof. However, it remained for the Leusch Manufacturing Co., of Waterloo, Iowa, to place on the market a cement shingle machine which bids fair to revolutionize the roofing business.

The earliest history of mankind tells us that a roof was a very essential thing, even then and that the balance of the house has been, and always will be, an after consideration. The all important feature of a dwelling house, or any other kind of a building, is a good roof. It is needless to dwell upon the virtues of cement. It is an undisputed fact that while stone has crumbled away with the ages, cement has grown firmer and stronger until to-day there can be found in old Europe, cement mortar and concrete construction which has withstood the ravages of time for 2000 years or more. The Appian Way, the viaducts of old Rome, to say nothing of the Pyramids of Egypt, were all constructed of cement and kindred materials. To any thinking person the advantages of cement shingles should be apparent. The cement shingle is as far superior to the wooden shingle as a well laid cement walk is to one built of boards. It will be but a few years until the people generally will build as few wood shingle roofs as they now do wooden walks. Cement shingles made by this new process are absolutely waterproof. The upper surface of each shingle has a smooth glossy surface like that of a burnt tile.

The method whereby this glossy surface is produced is a secret process which was only discovered by a long series of experimentations. By this process the shingles are rendered absolutely impervious to moisture. This process is sold with each machine and instructions, how to get the desired effect. The shingles are being used in the northwest where they have been subjected to the most rigorous climatic changes. There are several very large warehouses in Waterloo, Iowa, which have stood the test well. Great piles of snow and sleet failed to make any difference whatever in the roof, and to-day they are as good as ever. Something similar has been used in Scotland for the past one hundred years and cement roofs are found to-day on some of the old castles almost intact, while the remainder of the building shows marked signs of disintegration. It is a well known fact that properly mixed cement takes on new life after it is about a half century old and then becomes stone itself.

In offering the present cement shingle machine the Leusch Manufacturing Co. do so with the absolute knowledge and certainty that it will do everything that is claimed for it. The average weight of a single shingle is $4\frac{1}{2}$ pounds. They are 16 inches long, 12 inches wide and $\frac{3}{4}$ inches thick, and are laid on the roof overlapping each other two inches. These shingles can be made at less cost than cedar shingles can be bought, which makes them a very economical factor in the building of a house. In addition to this it takes one-third less sheathing than any other roofing. In fact the roof can be made without any use of wood whatsoever. They require no nailing and there is no sheet iron or tin to rust and corrode, as a copper wire is used on the inside to fasten the shingles to the roof. When laid on the roof the shingles present a neat appearance and smooth surface. They are not only waterproof, but fireproof. Shingles made by this process have been subjected to a white heat and after cooling there was a somewhat glazed surface, but the shingles were as good and strong as ever. Extreme cold has no effect on the shingles, no more than it has on a piece of well seasoned lumber. It never needs repairing or painting, the color being mixed with the cement cannot fade. It is a non-conductor of heat and cold, insuring a cool attic in Summer and a warm one in Winter. Very handsome effects and combinations can be produced by the use of bright colors, such as red and blue, which change to soft pleasing hues through the chemical process undergone by the mixing with ce-

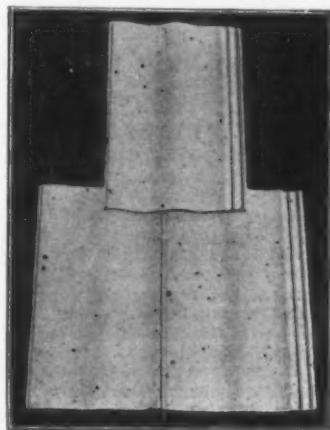
ment. In addition to making the shingles the machine also makes coping and ridgeways and very highly ornamental end shingles, which protrude over the edge of the roof. A roof made with Leusch shingles is not only durable and lasting, but highly ornamental, and architects and builders all over the country who have seen them used are high in their praise.

Mr. E. M. Newton, the general sales manager for the company, is now in the south, establishing agencies in the leading cities.

The Importance of Roofs in Modern Building.

ALLENTOWN, PA., June 8.—As an instance of the feats of modern construction in which the roof plays so important a part it can be said that very few buildings, recently constructed in this city, have aroused as much interest as the new Orpheum Theatre. While the plot of ground on which it is being built has been fenced in completely, passersby can get a very good idea of many modern schemes of building that are being used by the contractors.

Now the theatre consists of nothing more than embryonic walls for the most part, but balcony and gallery are almost completed. The roof over the auditorium and stage will be completed before the walls which are to carry it. Paradoxical



LEUSCH CEMENT SHINGLES AS LAID.

as this all may seem, it is only a logical development and the result of much experience in theatre building that the contractors have had. In old time theatres the building was erected then and then in its interior the scaffolding was raised to do the plastering, frescoing, lighting and other work. Now the scaffold is built within the walls at once. On its summit the roof is carried and supported until the walls have reached it. Likewise with the balconies. The minute the walls are completed the interior decorations can be proceeded with without any delay. When the scaffold is removed the flooring can be laid, chairs and carpets set and the theatre is ready for use.

The New Process Roofing and Supply Co. has been incorporated at East St. Louis, Ill., to manufacture roofing, etc. The capital stock is \$100,000.00. M. E. Keough, C. A. Ewing, and R. C. Baker are the incorporators.



PLANT OF THE LEUSCH MANUFACTURING CO., AT WATERLOO, IOWA, WHERE THE LEUSCH CEMENT SHINGLE MACHINE IS MADE

Have an Enviably Reputation.

WHEELING, W. VA., June 12.—As an example of what energy and enterprise will accomplish when backed up by real worth and integrity, is found in the history of the Ohio Valley Roofing Co., one of the most successful industrial and flourishing concerns of its kind in this state. This organization was incorporated for \$10,000.00 in August, 1905, with George C. Briemson as president and T. B. Auber, secretary. The offices of the com-



A ROOF MADE OF LEUSCH CEMENT SHINGLES.

pany are located at 2200 Main street, where a thoroughly equipped plant is maintained, and where can be found a stock replete in cornices, sky lights, hot air furnaces, tin, slate, tile, asphalt and mineral rubber roofing. The materials handled by this company are the best obtainable, and contracts bear the strictest guarantee as to faithful compliance to minute specifications, and as to quality and worth of the workmanship. Estimates are made on any class of work and the popularity and prestige obtained by them, marks this company for higher ideals and a continuous expansion limited only by its capacity to care for patrons properly.

Rushing Work on New Plant.

SALT LAKE CITY, UTAH, June 14.—The Mastie Roofing Co., has recently begun the erection of its new plant here on Fifth North and Fourth West Streets. Within sixty day's time the company expects to be operating the same as every effort will be made to complete it within that time.

Prosperous Southern Concern.

MOBILE, ALA., June 13.—A branch office of the New Orleans Roofing and Metal Works, of New Orleans, La., has been opened here where they are carrying a large stock of products manufactured at their big plant in New Orleans. This includes supplies such as galvanized sheet, copper, solder, building supplies, including best grades of ready roofings. The company also have a composition roofing department and have secured large contracts for their four and five-ply composition, pitch and gravel roofing at Montgomery, Ala.; Meridian, Miss.; Gulfport, Miss.; Waynesboro, Miss., and other points, besides numerous buildings in and around this city. Although this branch was only opened a few months ago, they have already found it necessary to secure additional quarters to take care of the increasing business at this branch. They are in position to make immediate shipments at lowest competitive prices.

The American Roofing Co., of Camden, N. J., has been organized with a capital stock of \$100,000.00. The company will do a general roofing and contracting business. W. S. Darnell, M. W. Darnell and G. D. Connelly are the incorporators.

AN EXPERT'S OPINION.

A Strong Plea for Concrete and Re-inforced Concrete Construction in the Re-building of San Francisco.

UNANSWERABLE ARGUMENTS.

Mr. William Ham Hall, of San Francisco, who is regarded as a high authority on all kinds of building materials, has this to say about concrete:

Concrete is among the oldest materials, and long ago was proved to be the best in durability and strength. Not to know this, is not to be familiar with the history of architecture, or not to have studied the grand remains of ancient buildings, which the old world presents. It is durability and strength which we should be looking for in San Francisco at this juncture. But while concrete has these in the highest degree, used alone, and in construction for some purposes, it is limited in economical application.

At this point modern science has come to the aid of ancient practice and has immensely improved on the former building art with concrete. So that we now have re-inforced concrete, in great measure perfected and provided for our use. With it we can, within economic limits, build comparatively light and even graceful and handsome structures, that will have the bearing strength of natural stone, the tensile strength of steel, to resist the disrupting influences of shocks, much of the artistic effect of carved stone, and a lasting and fire-resisting quality which will surpass them all.

There are many buildings of this construction, most of them recently erected in Eastern States, and very many in Europe. Fortunately, a few complete structures, though by no means of the best or most finished types, as well as very many examples of reinforced concrete construction of parts of buildings, are to be found within the radius of our recent trying shake.

These and parts of buildings passed the ordeal of earthquake practically without damages. Where failure of reinforced concrete can be found, it plainly was consequent upon primary failure of other materials, or, upon inexcusable rottenness of the concrete itself. For concrete can be, and often is as bad as any other class of construction.

Re-inforced concrete walls of buildings withstood the earthquake, where brick walls and combined brick and stone walls, both good, according to California standards, have failed in material degree, or were, in parts demolished.

Reinforced concrete foundation and basement walls, of which there are many, were, so far as can be ascertained, almost wholly undamaged, or in a few instances, show only knife-edge cracks, immaterial to their integrity. The same may be said of retaining walls. But, there are cases of concrete walls, not reinforced and not provided with expansion joints which do show cracks of larger dimensions, though no well built concrete wall, even though not reinforced, has been found which was materially damaged by the earthquake.

Reinforced concrete roofs and floors passed triumphantly through the earthquake, and such floors held a number of brick buildings in good shape under earthquake stress, which, judging by effect on buildings of the same class that did not have such floors, would have materially suffered from the shock.

Reinforced concrete floors have not always been of the best construction in San Francisco, but it is wonderful how they bore the strain which must have been put upon them. A few are now seen to have failed under the blasting and demolition influence of the fire, and this appearance must not be counted as of earthquake influence.

The lesson of the reinforced concrete buildings which were subjected to the influence of the earthquake, is certainly very instructive, and it should bear some good practical fruits.

That much so-called concrete work is put in which does not possess the valuable qualities of good concrete is a public misfortune. There is

no excuse for concrete work being bad, as there is for brick work being bad. It is easier to insure first class concrete work, than it is to insure first rate brick work throughout a job. The practice here may not warrant this statement, but engineering practice in larger and more advanced places does warrant it. Some persons will deny this.

That much concrete work is made to look like a bubbling mud spring or some other bizarre thing, in the endeavor to make it appear as stone by plastering it with cement mortar in bumps and hollows, is also a public misfortune. The result is not good, and not reassuring as to the qualities possessed by the wall. Such stucco can be put over a very bad wall, and one not concrete at all. This is not the way to give concrete a suitable appearance, and the material should not be judged by the plastered walls which go by its name.

The tensile strength of concrete, though great, is not commensurate with its strength to resist compressive strains, which latter kind of strength it has in a very high degree. In this it resembles a natural stone. But the possibilities of applying concrete in many constructions where tensile strength is required led to the demand for such use of it. No one ever thought of putting brick or stone to such tests. It was recognized that they not only did not possess the qualities necessary to meet them, but that they could not be built into the work so that the parts would have these qualities.

At this point, engineering science brought forward reinforced concrete, which, retaining all the strength of itself, has the strength of the opposite kind due to steel.

Now, what is reinforcing? The concrete construction in the process of building is reinforced by the introduction within it of rods, bars, filaments or meshes. The steel parts are so placed and arranged as to bear the tensile or pulling-apart strains brought on each member of the structure, while each part is so formed and proportioned that the pushing together strains, tending to crush it, are received by concrete which is exceedingly strong to bear them.

The steel parts imbedded in the concrete when it is in a plastic condition are usually corrugated, pitted, or otherwise roughened, so that when the concrete solidifies about them there can be no movement or slipping. A strong adherence is further promoted by a chemical action on the surface of the steel. The concrete and steel becomes one solid body, adapted to perform the duty imposed upon it as a construction. By the introduction of steel it is made possible to proportion the structure in comparatively thin parts, the concrete of which soon cures out. It is then free from moisture and remains so, thus protecting the steel forever from rust.

This is reinforced concrete, ferro-concrete, concrete steel or armored concrete. The one general class of construction goes under all of these names. There are quite a number of really scientific systems of combinations of steel and concrete in engineering and building construction, each having some application for which it may possess particular advantages.

There are also, as might be expected, much misrepresentation in this connection. The planning of reinforced concrete working to advantage for efficiency and economy is a distinctly engineering service. It has for some purposes been simplified by the calculation and printing of tables of strains, dimensions, etc. Designing in this class of construction can be at least as badly and dangerously done as in any other kind of structural work.

The boldest, most graceful, and taking all influences into consideration, the strongest bridges and dams in the world are built of reinforced concrete. Current technical literature and recent books are full of it. Slowly but surely, it has forced its adoption in building construction. Many architects still blindly oppose it.

I do not wish to be understood as condemning the use of brick, stone, terra cotta, tiles, etc., in rebuilding San Francisco. These materials all have their proper uses and advantages—and such applications leave open a large field for them; but I do most emphatically condemn very much of the past practice with such materials; and in the public interest, I enter an earnest protest against the intolerance of the use of reinforced concrete which has heretofore existed among those who have controlled the building material market and have been otherwise influenced in such matters in San Francisco.

Side Talk.

The Power and Mining Machinery Co., Milwaukee, Wis., have recently completed the shipment of a No. 9 McCully rock and ore breaker to the General Crushed Stone Co., Rock Hill, Pa. This machine is to meet the most severe conditions of service ever before exacted of any rock and ore breaker, the crushing of the hardest known grade of trap rock. It will replace several machines of other makes which were found unsuited for the arduous work imposed upon them. As a matter of fact, the material to be crushed is so hard that it practically ruined every machine heretofore used, through the breaking of the shafts, spiders, gearing, etc., as fast as new ones were put in.

We are brushing our clothes now with a splendid brush furnished by the Macomber Whyte Rope Co., Chicago. It is a little suggestion that the Whyte strands are growing in favor and are ever with you. The large rope buyer with his own signature and a two cent stamp can get one of these brushes and it will pay him for the energy of signing the letter.

The Ideal Concrete Machinery Co., South Bend, Ind., have issued a very attractive brochure containing a large number of illustrations which go to show the wide and useful application of the building material which has been produced on their machines. Each of the half tones is a picture of itself, a real picture, showing the character and texture of the stone and the beautiful and useful combinations, in which it has been applied in every part of the country. It is done in several colors on highly finished paper, and is one of the gems that go to show the status of the concrete block industry with special reference to the Ideal. The title is "A Peep at a Few of the Things Accomplished by Ideal Brick Machines," which, of itself is an insinuation that Mr. Wetstein, at South Bend, has plenty more of the same kind of visible testimonies, and has only selected enough to make the book complete from every standpoint of the requirements in actual construction.

The Biles Dryer Co., Louisville, Ky., manufacturers of direct heat and rotary steam dryers, announce that they have been granted some new patents in both lines of dryers which constitute a marked advance over anything that has heretofore been offered in the line of drying machinery.

The H. D. Crippen Manufacturing Co., 25 Broad Street, New York, manufacturers of mining machinery, have just issued their catalogue B 10, descriptive of their box electric drill, electric hoists, electric pumps, etc. They claim for their line of quarry and mining machinery that it is the most efficient, durable and economical obtainable, and invite a thorough investigation of their box electric drill, as well as their other tools. They will be pleased to give any information desired with regard to their line of machinery which entirely does away with the shafting and belting and other expensive equipments, and they want to write to every user of such tools with regard to electric economies.

The Ricketson Mineral Paint Works, Milwaukee, Wis., who have given so much attention to producing the exactly correct material for properly coloring concrete building blocks as well as every other artificial stone commodity, desire to take the matter up direct with all the manufacturers who are interested in this matter. They have furnished satisfactory coloring matter for so many who have conferred with them that they have confidence of being able to satisfy the most fastidious, both as to the permanent colors produced and the economical prices at which they are able to offer the best goods.

The Standard Brick Machinery Co. 114-118 Liberty Street, New York, have become the owners of the Huenecke system for the manufacture of sand-lime brick. The officers of the company are: Francis A. Crandall, president; John A. Wilbur, secretary-treasurer, and Colby M. Avery, engineer. The general offices of the company will be located as stated above, while Mr. A. F. Doyle, who was formerly representative of the old Huenecke Co. has taken offices at 1147-1148 Marquette Building, Chicago, where he will represent the Standard Brick Machinery Co. in the West.

Among the first contracts let by the Isthmian Canal Commissioners was one placed with Messrs. Manning, Maxwell & Moore, of New York City, covering a complete rock crushing plant for crushing the trap rock to be used in ballasting the tracks of the Panama railroad and the Culebra Cut railroad operations, and also for making concrete materials. This entire plant was designed and all the machinery furnished by the Allis-Chalmers Co., of Milwaukee, Wis., and consists of one No. 8 and two No. 5 Gates' breakers with elevators, revolving screens, etc.

Brick in the canal zone has been found by the engineers to be so expensive as to be out of the question, both from the excessive cost of brick as well as the expense of skilled labor. Concrete construction will therefore be employed in enormous quantities. The present plans of the chief engineer is to follow out the lines of American railroad construction, as far as possible using heavy locomotives, cars, rails and ballastic tracks. This crushing plant will be undoubtedly one of the most important single factors in the development of the canal work, and it will be undoubtedly taxed to the utmost capacity for the next few years to come.

The Isthmus of Panama, where the canal intersects it, is about forty-five miles wide, with a continuous range of mountains extending along the isthmus south of the center, known as the Culebra range. A cut through this range of mountains, being a distance of about ten miles, constitutes the most difficult part of the undertaking in the completion of the canal. The sources of trap rock to supply the crushers are abundant in the foot hills of the Culebra range on the southern or Pacific side of the isthmus, and the crusher plant is being located there on account of the convenient access to the rock and to the points of distribution for crushed material.

The Chicago Pneumatic Tool Co. have just issued their circular No. 56 which tells the story of their Duntley electric drill, with numerous illustrations to show the wide range of usefulness and specific economies that can be accomplished by the use of their little air cooled wonder. Of course it incidentally covers Boyer and Keller hammers as well as their well known Franklin air compressor.

The Miracle Pressed Stone Co. Minneapolis, Minn., report that the operators of Miracle machines manufacturing their double staggered air space cement blocks are pressed with all the business that they can undertake, and to back up their campaign of advertising the block for the use of architects and contractors generally, they are in need of a large number of active manufacturers to employ the Miracle machine. They believe in making business for their patrons, and while they put everything of possible merit into their machines, go even further than that by endeavoring to find a market for the man who uses their machine. They say the big factory at Minneapolis, where their machines are built, is kept constantly busy filling orders for concrete machinery of every description, and that but one testimonial returns to them, namely, the complete satisfaction of their customers.

The Wichita Coal and Material Co., Wichita, Kansas, have issued a complete catalogue of the Reed cement working machinery, which is manufactured by them, consisting of machines for the manufacture of hollow building blocks, cement brick with various faces and plates for making ornamental porches, together with automatic lampers, drain tile molds, and all kinds of equipment for a plant devoted to the manufacture of building material. It is very complete and effective, reprinting as it does much of the valuable practical information that has been developed in the last year or more. It will be furnished to parties interested for the asking and every manufacturer of concrete building material should have a copy of it for ready reference.

The Century Cement Machine Co. Rochester, N. Y., designers and manufacturers of the Hercules Cement stone machine are having unprecedented success with their 1906 model. The machine, early in the year, attracted a great deal of attention at the conventions where it was exhibited, and not only have orders come for it throughout the length and breadth of this land, but a larger number of them have been shipped abroad than any former machine. The company has within the past month shipped twenty-two machines to foreign countries, eight to Ireland, one to England, one to Chile, four to Porto Rico, four to Cuba, two to Buenos Ayres, and two to Australia. This company were pioneers in providing for the ornamental and decorative feature in concrete stone, and they have always kept ahead of the improvements that have been inaugurated, and it is claimed that their machine has penetrated into territory and has been accepted where no other concrete machinery working by the dry mix has been allowed.

Wanted and For Sale

One insertion, 25c a line; Two insertions, 50c a line; Three consecutive insertions with no change in the composition, 50c a line. Count eight words to a line; add two lines for a head.

WANTED—HELP.

AN EXPERIENCED MAN to operate and control crushing and grinding plant in southern Illinois. Man preferred who can take an interest with us, but will not insist on this. Address M. B. COBURN, 502 Commercial Building, St. Louis, Mo.

A MAN understanding the plaster business, from building a calcining mill to making and marketing the product. Wishes an interest in a live concern South or West. Calcining mill or builders' supply proposition preferred. Address N Z 2, care Rock Products.

AT ONCE—Fifty first class quarrymen and scabblers of sandstone, at North Amherst, Ohio. Address THE OHIO QUARRIES CO.

A THOROUGHLY COMPETENT and experienced superintendent to take charge of patent kiln lime plant with oil fuel. Salary \$125.00 per month and house. Apply the HOLMES LIME CO., Inc., 1904 Devisadero St., San Francisco, Cal.

PARTY THOROUGHLY EXPERIENCED in the manufacture of sand-lime brick, to take small amount of stock and take the management at good salary. Factory is new and thoroughly up-to-date in every way, and located in a town of 25,000 population, in rapidly growing territory. Present owners have no time to look after the enterprise, and a very attractive proposition will be made to right party. FRENCH BROAD GRANITE BRICK CO., Asheville, N. C.

SUPERINTENDENT—For a cement stone plant, using the Fisher system. Answer at once, with qualifications. Address SPARTANBURG HYDRAULIC PRESSED STONE CO., Spartanburg, South Carolina.

BUSINESS OPPORTUNITIES.

TO LEASE—Unequaled location for lime kilns on White River railroad. 99 per cent carbonate of lime. Address Box 137, Calico Rock, Ark.

Stone Crushers for Sale.

One Morris Crusher No. 5, opening 24x72.
One Morris Crusher No. 5, opening 20x60.
Two Champion Crushers No. 5, opening 13x26.
These Crushers are in excellent working order and will be sold at a low price and are ready for quick delivery. E. B. LEAF & CO., Buyers of scrap iron and old rails, 1241 Real Estate Trust Building, Philadelphia, Pa.

FOR SALE—MACHINERY.

ALBERT RAYMOND, three roller mill, with Vacuum Separator and Fan. Complete and in perfect condition. Address N Z3, care Rock Products.

ONE INGERSOLL-SERGEANT DRILL—No. B 32, with all fittings; in A 1 condition. STANDARD LIME CO., Kendrick, Fla.

ONE HERCULES soft mud machine; one Quaker machine; will sell cheap or will exchange, for two or four mould dry press, in good condition. Address N Z4, care Rock Products.

ONE Merritt Manufacturing Co.'s Hoop Making Machine; also one coiler; capacity fifteen to twenty thousand hoops per day. Address KEYSTONE LIME CO., Charleston, S. C.

TEN WARDELL channelling machines, in fair condition. Cheap. May be seen at our quarries, Amherst, Ohio. Address or call on the Ohio Quarries Company, 818 Euclid Avenue, Cleveland, O.

TWO NEW PATTERN gang stone saws, 14-0 x 6-0. One new turning lathe 12-0 x 3-0. Cheap. Address Pleasant River Granite Co., Addison, Me.

WANTED—MACHINERY.

SECOND HAND ROCK CRUSHER.—State kind, price and full particulars. Address N Z 1, care Rock Products.

FOR SALE—MISCELLANEOUS.

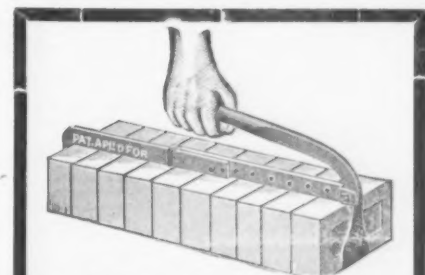
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Why handle brick in the same manner as the Ancients?
Buy a pair of Brick Clamps and be up-to-date. Unload one car of brick and you save the cost of this appliance.
50c to \$1.00 per thousand on Pressed Brick alone, saved by no chips.
Street contractors, save your pavers 33 per cent. labor by carrying brick from curb instead of dumping from a wheelbarrow. PRICE \$2.50 EACH.

Houston Brothers Company

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Peirce City White Lime



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If you are in the market for blackboards made of Slate it will be to your interest before placing orders elsewhere to write us for prices and to receive a sample of our product, as we are confident of saving you money, and that our Slate is as fine as can be found on the market.

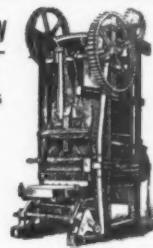
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EASTON, PA.

Clay Working Machinery

Yard Supplies of all Kinds

**CEMENT MIXERS
ELEVATORS
CONVEYORS
DRY PANS
CRUSHERS
BARROWS AND
TRUCKS**

Steam or
Animal Power
Brick
Machinery



"MARTIN"
DRAWER 587
LANCASTER, PA.

GOOD THING TO HAVE your shovels and loose tools marked plainly with your name. That's where

AN "IDEAL" BURNING IRON



FILLS THE BILL

Makes a good plain mark that is Easy to See and won't come off. Any name up to 12 letters, suitable size for shovel handles, etc. sent express prepaid for \$1.50 with order. Initials only, up to 4 letters \$1.25. We make name stamps and special markers for concrete work to order.

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FOR THE PRICE OF
ONE GOOD LEATHER
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and each GANDY capable of doing at least twice as much work as the leather belt at that.

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**GANDY
BELTING CO.
BALTIMORE, MD.**

The Only Fire-Proof Sand for Cement Brick and Blocks

THE BEST SAND
GLASS MANUFACTURING FOUNDRY PURPOSES
GLASS BEVELING STONE CUTTING
PLASTERING AND CONCRETE

THE IDEAL SAND FOR SAND-LIME BRICK

PURE WHITE AND BUFF
99% Pure Silica

THE BEST OF KNOWN
CORE SANDS.

KENTUCKY SILICA COMPANY, LOUISVILLE, KY.

MINES ON I. C. R. R. AT
TIP TOP, KENTUCKY.

ROCK PRODUCTS' ADVERTISERS INDEX.

Advertisers after which the page number does not appear the advertisement will be found in the next issue:

Abbiatti, E. & Bros.	53	Carthage Superior Limestone Co.	52-53	National Concrete Supply Co.	53	Shepherd & Parker	17
Acme Cement Plaster Co.	56	Casca & Ciconi	1	National Brick Machinery Co.	1	Shoop, S. W. & Co.	18
Abern, James	67	Causey & Sons	46	National Wall Plaster Co.	65	Simpson Cement Mold Co.	59
Allis-Chalmers Co.	67	Caumissar, T. C. & Sons	54	New Albany Wall Plaster Co.	65	Simpson, B. L.	54
Alpha Portland Cement Co.	2	Cement Machinery Co.	54	New Albany Mfg. Co.	5	Smith, F. L.	13
Alsing, J. R. & Co.	12	Cement Machinery Mfg. Co.	52	Newaygo Portland Cement Co.	5	Smith, E. L. & Co.	54
American Air Compressor Works.	12	Century Cement Machinery Co.	52	New York Consolidated Slate Co.	5	Smith Bros.	51
American Clay Working Machinery Co.	67	Chase Foundry and Machine Co.	51	Niles-Bement-Pond Co.	5	Sodestrom, J. A.	51
American Granite Co.	50	Chattanooga Paint Co.	60	Norris & Christian Stone & Lime Co.	8	South Bend Machine Co.	50
American Hydraulic Stone Co.	50	Chemical Stucco Retarder Co.	65	Northampton Port Cement Co.	6	Southern Roofing & Paving Co.	17
American Process Co.	58	Chicago Belting Co.	2	N. W. Expanded Metal Co.	65	Spackman, Henry Eng. Co.	17
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American Sand Lime Brick Co.	71	Chickamauga Quarries Co.	2	Ohio Fiber Machinery Co., The.	63	Standard Sand & Mac. Co.	52-51
American Sewer Pipe Co.	72	Clayton Air Compressor Works.	2	Ohio Lime Co., The.	63	Star Elect. Fuse Co.	54
American Soap Stone Finish Co.	45	Cleveland Builders Supply Co.	2	Ohio Retarder Co., The.	66	Standard Mac. Co.	54
Anderson Bros.	45	Cleveland Car Co.	14	Oklaoma Granite Co.	66	Steam Stone Cutter Co.	57
Anderson, Geo. & Co.	45	Clyde Iron Works.	14	Oliver, Wm. J., Mfg. Co.	66	Stewart Granite Works	57
Ash Grove White Lime Associa- tion	7	Clinton Metallic Paint Co.	18	Oolitic Stone Co., of Indiana.	66	Stone Working Mac. Co.	54
Ashland Fire Brick Co.	18	Cohen, Michael	18	Ossola, Jos. D.	66	Strait, John	54
Ashland Steel Range Co.	53	Concrete Engineering and Equip- ment Co.	64	Ottawa Silica Sand Co.	1	Stringer Mac. Co.	54
Atlas Car Mfg. Co.	72	Concrete Stone & Sand Co.	55	Osark Cooperage Co.	18	Stroud, E. H. & Co.	12
Atlas Cement Machinery Co.	57	Consolidated Granite Co.	55	Palmer, Noyes F.	1	Stroudsburg Engine Works.	14
Atlas Portland Cement Co.	72	Consolidated Quarry Co.	55	Palmer, Harmon S.	29	Sturtevant Mill Co.	14
Aurora Boiler Works.	14	Consolidated Stone Co.	55	Parry, L. L.	29	Sullivan Mch. Co.	54
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Averill Granite Co.	14	Crippen, H. D.	55	Paxson, J. W. Co.	29	Swindell, Wm. & Sons.	17
Backus Gas Engine Co.	48	Dallett, Thos. H. Co.	55	Peelless Brick Machine Co.	58	Sweeney Bros.	17
Banner Cement Co.	5	Davenport Locomotive Works.	55	Perry-Mathews-Buskirk Stone Co.	58		
Bartlett, C. O. & Snow Co., The.	17	Dea Moines Mfg. & Supply Co.	58	Pettyjohn Co., The.	60	Taylor Iron and Steel Co.	13
Barre White Granite Co.	58	Devers Cement Works.	64	Peirce City White Lime Co.	46	Thomas Block System.	53
Bates, I. W.	58	Doucette Bros.	71	Perfection Block Mac. Co.	58	Trow & Holden.	53
Bates Eng. Co.	48	Dunning, W. D.	71	Peerless Brick Machine Co.	58		
Bedford Quarries Co., The.	58	Dunn, W. E.	52	Perry-Mathews-Buskirk Stone Co.	58	Union Mining Co.	1
Bedford Steam Stone Co.	69	Du Pont Powder Co.	48	Pettyjohn Co., The.	60	U. S. Drying Machinery Co.	64
Bell, Edwin Co., The.	69	Durkin Reeves.	45	Peirce City White Lime Co.	46	United States Gypsum Co.	64
Bianchi, Chas.	66	Eclat Granite Co.	51	Pirie, J. K.	46	Urschel Bates Valve Bag Co.	64
Big Four Route.	66	Edmondson Mac. Co.	51	Pittsburg Crushed Steel Co.	65		
Biles Dryer Co.	1	Elyria Mac. Works, The.	63	Plymouth Gypsum Co., The.	65	Vulcan Grit Works.	46
Blodgett, J. O.	1	Elyria Wood Plaster Co., The.	64	Post Pipe Co.	10		
Binnas Stucco Retarder Co.	68	Erskine, J. B. & Sons Mfg. Co.	64	Power and Mining Machinery Co.	62	Ward Lincoln & Co.	46
Birmingham Iron Foundry.	68	Euroka Mac. Co.	58	Pulsometer Steam Pump Co.	62	Warner, Chas. Co.	2
Bishop, Joseph.	64	Excelsior Granite Co.	58	Quincy, W. C.	50	Watt Mining Car Wheel Co.	2
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Butterworth & Lowe.	68	Furst, Kerber Stone Co.	46	Robar, Fred J.	6	Wichita Coal & Material Co.	51
Caden Stone Co.	48	Gandy Belting Co., The.	46	Rochester Lime Co.	8	Williams, C. K. & Co.	18
Cameron D. E.	48	Garry Iron and Steel Co., The.	63	Rogers White Lime Co.	6	Williams Patent Crusher & Pul- verizer Co.	46
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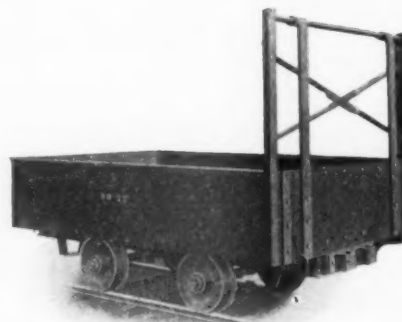
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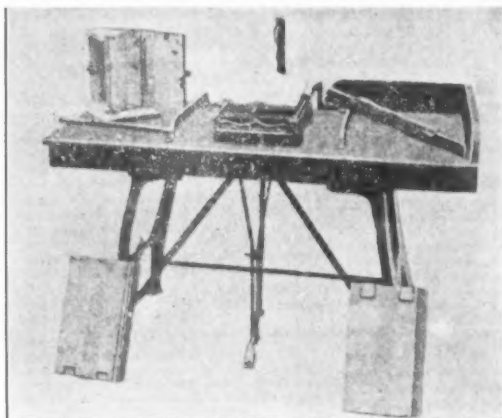
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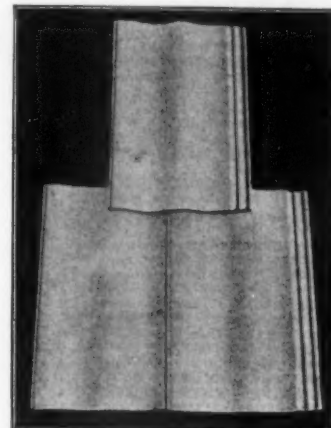
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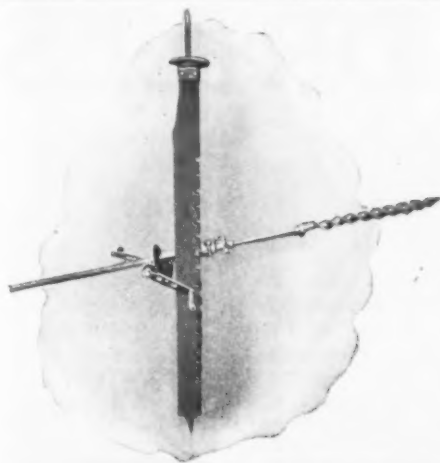
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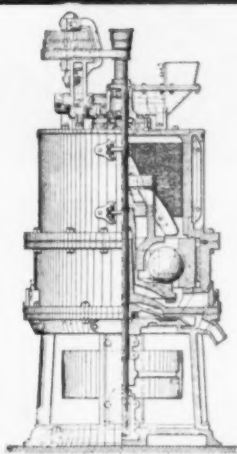
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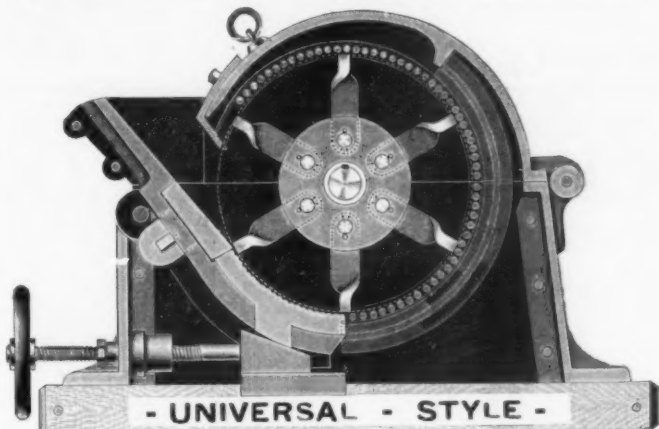
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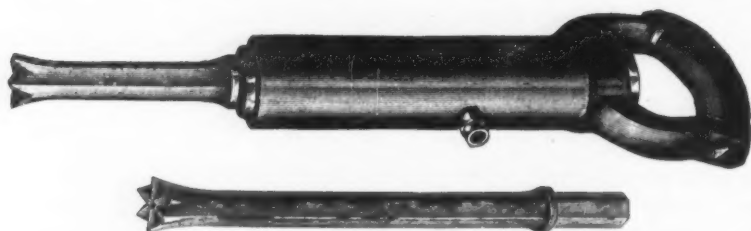
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Old Colony Building, CHICAGO

Tell 'em you saw it in ROCK PRODUCTS

WONDER ROCK DRILLS



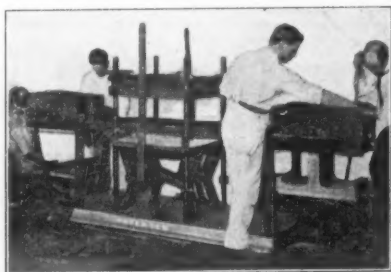
Wonder Rock Drills fitted with Wonder Hexagon All-Steel Hollow Bits give Excellent Satisfaction.

**LIGHT, SIMPLE, DURABLE,
CONVENIENT, SUCCESSFUL.**

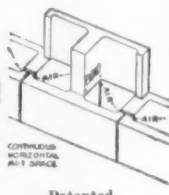
Drill rapidly and economically. Have no complicated parts. Easily operated by one man. Save labor, time and money. Different patterns. All first class. Every machine guaranteed.

Write for Catalogue.

HARDSOEG WONDER DRILL CO., - Ottumwa, Iowa.



**HOLLOW
CONCRETE
WALLS and
PARTITIONS
TWO-PIECE
SYSTEM**



Patented.

Would You Like to Learn



"In the Engineering News of Oct. 5th and 12th, 1905, were published the papers awarded the first and second prizes in a widely advertised competition, each of which papers is a very able treatise advocating our system of construction."

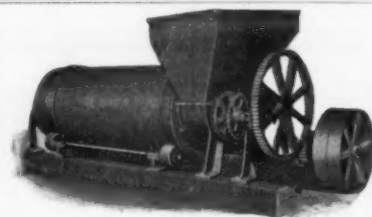
THE AMERICAN HYDRAULIC STONE CO., Century Bldg. Denver, Col.

Hayden Mixers are Thorough

The Hayden Mixer is a composite of durability, rapidity and economy. The materials are automatically fed. The drum is made of No. 8 gauge steel plate, made in two sizes. The reel is a spiral arrangement of steel knives. Send for Catalog "B".

The Hayden Automatic Block Machine Co.
Columbus, Ohio.

New York and Foreign Office:
Hayden Automatic and Equipment Co.
26 Cortlandt St., New York City.



We can assist you thro' our Wanted and For Sale department, at a very small cost.

The HELM Cement Brick Press and Product Beats Them All!

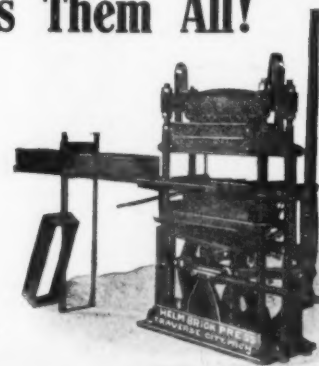
The Greatest Capacity, Highest Quality, Largest Variety, Least Labor, Lowest Cost

Quantity	Ten thousand brick in ten hours, day in and day out. Actual work, not theoretical claims or short time spurts.
Quality	Perfect press faced brick, true in size, uniform pressure. Heavier than tamped brick, more material, consequently denser, harder, smoother and less porous.
Variety	Plain pressed, colored, faced, plain or colored ornamental designs of many styles, including rock face.
Labor	One man presses the ten thousand brick in ten hours, highest development in labor saving methods.
Cost	The minimum gained by this press, requiring less labor than the laborious task of hand tamping, actually producing the same amount of wall space as a cement block for less cost. Competes with highest grades of repressed clay brick. One man purchased five machines, 50,000 capacity to operate day and night.

Two Thousand to Four Thousand Facing Blocks in Ten Hours

By using our press and special attachments. Makes two sizes. Use the two piece system and get dry walls at lower cost than hand tamped hollow blocks, greater profits. Any style face desired. Complete plant in this one machine and attachment. Ask for circular "K".

QUEEN CITY BRICK MACHINE CO., Traverse City Mich.



SOUTH BEND MACHINE MFG. CO.

1807 SOUTH FRANKLIN ST.,

MANUFACTURERS OF THE

SOUTH BEND, INDIANA.



"Standard" Cement Brick Machine.

Cement brick made by the Standard Brick Machine can be made for less money than any clay brick or any cement brick made by any other Brick Machine now on the market.

They are all perfectly smooth, with no broken corners. They can be made into either plain or fancy shapes. Small amount of capital invested. Large output at small expense. It is the fastest hand machine in the world.

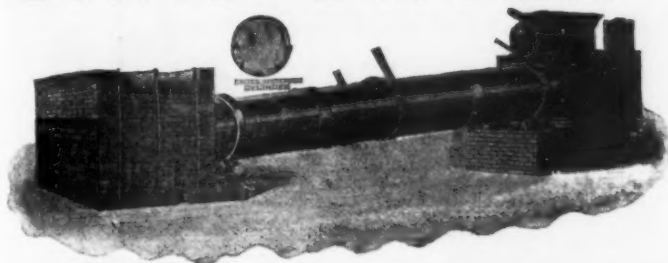
THE STANDARD CONCRETE MIXER will handle one-third yard at a time. Mixes batch thoroughly in a minute, whether wet or dry, and two horse power is all that is required to operate it. It is especially adapted for brick or block work. The machine is self cleaning, is filled and unloaded easily.

Write for Catalogue and Prices before placing order.



Tell 'em you saw it in ROCK PRODUCTS.

SAND DRYER

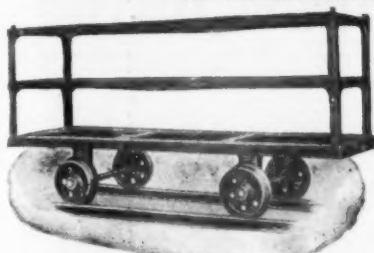


Dryers, Screens, Elevating and Conveying Machinery, Mixers, Concrete Building Block Machinery of all kinds, Power Tampers, Etc.

Ask for catalogue and prices.

The Standard Sand and Machine Company,
CLEVELAND, OHIO.

Roller Bearing Drying and Transfer Cars for CEMENT BLOCKS and BRICK.

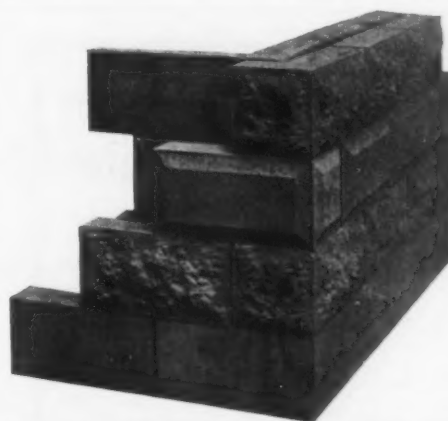


Do not buy a car where the corner braces extend below the beams of the deck as they spoil the end blocks.

The only car that has the center of the decks supported without the annoyance of center legs.

Write us for Catalogue No. 5.

The Chase Fdy. & Mfg. Co.
COLUMBUS, OHIO.



A Perfect Hollow Wall

Is what you want, to make a dry wall, and a frostproof wall. With our machine you can make the blocks to build that kind of wall at the rate of one a minute. We make moulds for all kinds of Caps, Sills, Watertable, also Hand Mixers.

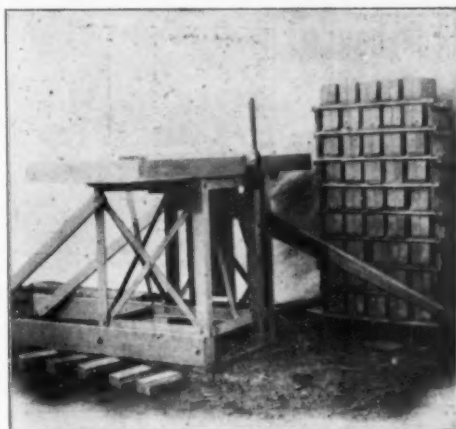
Send for prices to

THE EDMONDSON MACHINE COMPANY, South Bend, Ind.

"The Wonder of the Age"

The Keystone is a face down machine and has proven itself to have a larger capacity and produces neater work than any other machine on the market. A postal will bring you full particulars and valuable information. Address

The Keystone Cement Block Machine Co.
PHOENIXVILLE, PA.



The Samson Steel Cement Pressed Brick Machine

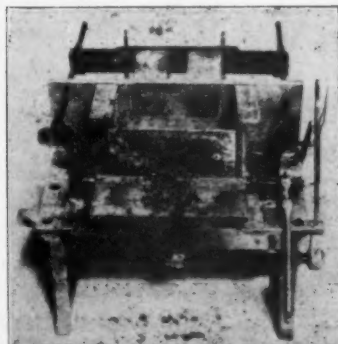
built for business. Superior over all others by reason of the adjustable features. A High Grade Machine producing a high grade cement pressed brick; that for evenness of density, solidity and quality are Superior to brick made by any other process. Easy capacity 2,500 or more pressed brick per day for one man according to ability of operator. The compound Lever is simple and effective, the whole outfit is one of genuine merit and reliability. If you want to know more, write

J. A. SODESTROM,
MANUFACTURER

SAC CITY, IOWA.

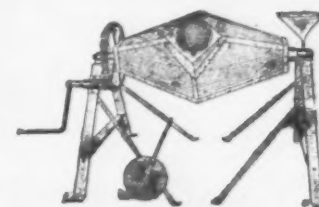
United States Patent No. 233,901

The "Reed" Machines are in the Lead



DOWN FACE MACHINE

Machines are adjustable. FACE SIDE, FACE DOWN, BRICK and MIXING CONCRETE MACHINES. Our machines produce blocks and brick from a WETTER MIXTURE of material than any tamped machine. 350 to 600 blocks and 5,000 to 7,000 brick produced in ten hours. Material used wet enough so that the web of the manufactured block can be moved back and forth without injury to the block. All cement men will recommend the block made from a wet mixture of material as can be handled. THE REED MACHINES FILL THE REQUIREMENTS. Blocks and brick are turned out of the mould box under pressure. It will pay you to investigate our machines before ordering. Two piece blocks produced. Face down machines \$35.00 up.



O. AND E. MIXER

The Wichita Coal and Material Co., Wichita, Kan.

Tell 'em you saw it in ROCK PRODUCTS.



Done on the Hercules

The World's Greatest Cement Stone Machine.

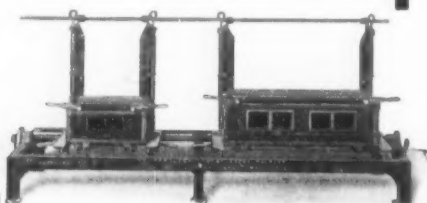
This is a reproduced photograph of the Weldon Apartment house at Greenfield, Mass., built of Cement Stone made on the Hercules.

On this machine, so simply constructed, the most marvelous results are obtained. It will make solid or hollow blocks, pillars, sills, lintels, coping or ornaments of any kind from 2 inches up to 6 feet. It will make two blocks of the same size and design or of different sizes and designs at one and the same time.

The Hercules will make more stone and better stone in less time and for less money than any other machine. We can't prove that statement here, but if you will take the trouble to send for our handsomely illustrated 68 page catalog, it won't take but a few minutes to convince you. Ask for Catalog L.

**Century
Cement
Machine Co.**

179 West Main Street,
ROCHESTER, N. Y.



When a man buys a concrete mixer he expects it to **produce** a fair dividend on his investment. To produce that dividend there are certain requirements that go to make the total profitable. **Speed** of course is necessary, but **speed without** a **thoroughly mixed** product is worse than useless. The designers of the American Mixer always kept this point in mind and further, did **not** forget **durability**. As a result, the American Mixer is the **highest type of modern mixer**—a **batch mixer**.

Send for copies of letters we have received from our users.

Catalogue "I" tells the story.

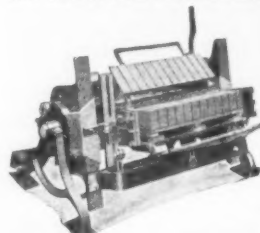


Manufactured By

The International F. and Fireproofing Co.
Columbus, Ohio.

The Latest—Four Concrete Machines in One.

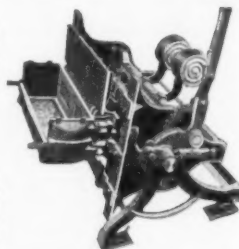
1. A Face-Down Machine—None equal it in advantages.
2. An Upright Machine—A marvel of speed, economy and wide range of adjustments.
3. A Two-Piece Block Machine—Exceedingly practical and makes two blocks at once.
4. A Cement Brick Machine—Meets all requirements.



Showing Cement Brick Attachment.

Another Valuable Feature.

Its product makes the only triple air space wall. The latest and best thing out. Absolutely moisture proof.



Showing Face-Down Position.

The Winget Company furnishes all necessary machinery for a complete up-to-date Concrete Block Plant, including mixers and tampers. For full information address

THE WINGET CONCRETE MACHINE COMPANY, :: COLUMBUS, OHIO.

EXCLUSIVE FEATURES OF THE Result Producing Hayden

1. It is the only down-facing machine that makes concrete blocks in all lengths up to 12 inches and delivers the blocks away from the machine. 2. It is the only down-facing machine that makes concrete blocks in all widths of faces up to 9 inches. Regular can be made any size. 3. It is the only down-facing machine that makes concrete blocks in 1 1/2 wall-thicknesses up to 16 inches. 4. It is the only machine that makes faced concrete blocks with the same number of machine movements as blocks made of a uniform material throughout. 5. It is the only machine that allows 1/4 inch space for mortar on the laying side of every block. 6. It is the only down-facing machine (mould boxes excepted) which makes concrete blocks at a point low enough to allow for proper tamping without bending over. 7. It is the only machine that molds with absolute accuracy all the laying sides of the concrete block. The striking off is done opposite the face and thus interior and exterior may both be faced.

You Get Speed in Operation and Adaptability. Highest award, gold medal, was received by this machine at the St. Louis World's Fair. Send for Catalogue "F".

Hayden Automatic Block Machine Co.
COLUMBUS, OHIO

New York and Foreign Office, Hayden Automatic and Equipment Co., 26 Courtland Street, New York.



IT IS A QUESTION OF ECONOMY

in buying a Concrete Building Block Machine the same as any thing else. You want the **best**, at the same time the **cheapest**. The **SIMPLICITY** fills both of these requirements.

Write for catalogue and further information.



"THE SIMPLICITY."

The Standard Sand & Machine Company,

Manufacturers of Labor Saving Machinery.

Address Dept. "D."

CLEVELAND, OHIO.

The Dunn Hollow Block Machine



Is giving satisfaction and making money for its users in every State. Not complicated, not expensive, does the work, that's all. The only machine making both the Steel Bonded and the ordinary Web Block, in all sizes and many designs. Also Sills, Lintels, Water Tables, Piers, Angles, Veneer Blocks, etc. All blocks made on a one size, inexpensive Wood Pallet.

Write for catalog B. to-day. The price will suit you.

W. E. Dunn & Co.

Sole Manufacturers in the U. S.
350 W. Fullerton Ave., Chicago, Ill.

Tell 'em you saw it in ROCK PRODUCTS

The Latest Improvement in Building Material.

A Product in Itself, No Imitation.

"ART MARBLE," "LITHOLITE"

—and—

Concrete Building Blocks.

THE THOMAS

Block and System of Insulated Walls

—combining—

Strength, Durability and Beauty.

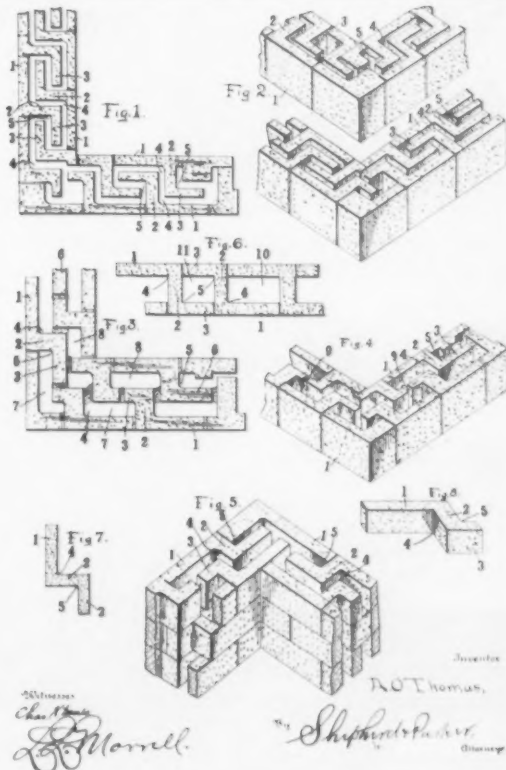
As far superior to common imitation stone as pressed brick is to common, and much cheaper. Our process is based upon scientific principles. Machinery and cost of manufacturing reduced to the minimum.

**BLOCKS NON-ABSORPTIVE
WALLS FROST PROOF**

AGENTS WANTED

**Buy while Introductory Prices
are Offered.**

Patents fully Cover System.



KNUTZEN & ISDELL, General Agents, Kearney, Neb.

Problems Solved

**Coloring,
Quick Hardening, Waterproofing**

**3 IMPORTANT THINGS IN
THE CONCRETE INDUSTRY. 3**

The results of practical tests and long experience enable us to make the following absolute reliable offers.

1. A simple and inexpensive method of **hardening** quick curing) cement brick and blocks in **3 or 4 days** instead of 30, without adding to the cost of manufacture.

THINK WHAT THIS MEANS!

LESS stock to make up and carry, LESS capital for material and labor and LESS room required for storage

**No manufacturer can afford to be without
this knowledge.**

Exclusive rights only will be sold.

2. A formula for waterproofing, cheap and effective, making the product impervious to water and removing one of the principal objections urged against concrete.

3. An assorted supply of reliable colors [over 700 lbs.] in Reds, Browns, Buffs or Yellows and Blacks with directions for use.

National Concrete Supply Co.

Dept. G. 1 Madison Ave.

NEW YORK

DID IT EVER OCCUR TO YOU?

That there could be such Simplicity and so much Utility, combined in one machine, as that found in the

U. S. Standard Concrete Machine



It is simple, adjustable and portable.

It covers the greatest range of work.

All blocks of uniform density.

No cogs, gear, wheels, cranks or chains to get out of gear.

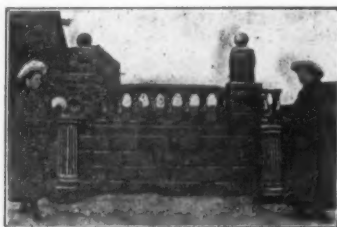
All work made face down.

Cores are moved horizontally by means of positive lever action.

If in the market for the best Concrete Building Block Machine, write or wire.

The Ashland Steel Range & Mfg. Co.
ASHLAND, OHIO.

Tell 'em you saw it in ROCK PRODUCTS.



A GOOD PAIR—Dever's Ball and Spindle Molds.

Architectural Ornaments

Pleasing Effects Can be
Produced by the Use of Our

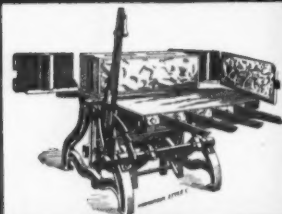
BALL AND SPINDLE MOLD

The cost is light, but rich, effective beauty is secured to your work. No plant can be called complete without them. We provide for the necessity that has been holding the cement industry back. Write to

DEVER'S CEMENT WORKS. CASSOPOLIS, MICHIGAN.

Do not wait till others get the equipment, it will pay for itself on one job.

High Grade Concrete Block, Brick, Post and Mixing Machinery



"We Have The Leaders." "The Big 7"

- 1 Normandin Concrete Block Machine (Face Side)
- 2 Peninsular Concrete Block Machine (Face Down)
- 3 Gemaco Concrete Block Machine (Face Side)
- 4 Champion Concrete Veneer Block Machine (Face Down)
- 5 Favorite Sand Cement Brick Machine
- 6 Systematic Concrete Mixer
- 7 Universal Cement Line, End and Brace Post Machine

We are in the business. We can give you the best value for your money. Write us. Don't delay. Get started. Concrete posts, blocks and brick are in demand. We solicit your trade because we can please you. Our machines are standard, adopted twice by the United States Government. Highest awards Universal Exposition, St. Louis, 1901, and Portland Exposition, 1905.

CEMENT MACHINERY COMPANY, JACKSON, MICHIGAN U. S. A.



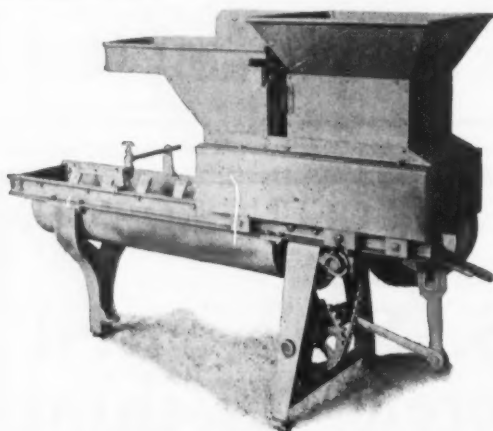
The Stringer Cement Block Machine

Latest Improved, Handiest,
Quickest Adjusted.

Will make Blocks any size
from a brick up. Water Tables,
Sills, Angles, Gables, Culvert
and Sewer Blocks—

HOLLOW OR SOLID.

STRINGER MACHINE CO., Jackson, Mich.



The Standard Continuous Concrete Mixer

"The Mixer that Measures and Mixes"

"You fill the Hoppers, the Mixer does the rest."

Continuous Automatic, Feed Exact Proportions.

Materials first Dry Mixed then "Tempered." Output instantly variable from 0 to Maximum at will of operator, thus insuring Fresh Material for each Block. Feeds Sand and Gravel Dry or Wet.

Write for description and prices to

The STANDARD MACHINE CO.
KENT, OHIO



THE COMMON SENSE CEMENT BRICK MACHINE

Simple in construction, nothing to get out of order. Easily adjusted to make any size block and any kind of face.

John Strait,
Rock Rapids, Iowa.

Waterproof Stop the Leaks with the Best and Cheapest Waterproofing on Earth.

The salvation of the Cement Block business depends on a reliable inexpensive waterproofing. We have it: costs but 15 cents per gallon. Formula for sale (shop right) for \$15.00. Send for further information and sample stone treated with this process.

—ADDRESS—

BENJ. L. SIMPSON, 3229 Charlotte St. Kansas City, Mo.

Tell your friends about the good things that appear in Rock Products

These Cuts Show Our 1906 Model No. 4 Chicago Machine.



Cut on left shows Chicago No. 4 machine, set to mould 4 blocks at one time, each 6x12-in. Cut on right shows 2 blocks moulded, each 14-in. wide and 22-in. long. Any size or shape of block required in ordinary building construction can be moulded on this machine. We ship our machines on approval, and send our demonstrator to start your plant, or we will pay your railroad expenses here and return to look over our line and choose what you want. We manufacture more than 20 different styles of block machines, ranging in price from \$15.00 up. We are the largest exclusive manufacturers of block machines, moulds and tools. Make us a visit and we will show you more than 40 different styles of machines. OUR FACE DOWN MACHINES HAVE NO EQUAL. If we cannot please you, we pay your railroad expenses just the same, and you are out only your time. We have machines for making any size or shape of block, and any style of air space; we have side face and face down machines. We build MACHINES, not crude, cast boxes. Since our ad. first appeared in Rock Products, we have sold more than 100 outfits. We have equipped more than 2,000 plants and will furnish you list of names and addresses of users of our machines on request. Send us your order for one of our \$75.00 outfits; we will ship on approval, freight paid, and if not satisfactory after five days' trial, notify us and we will remove it. Write today for our 50 page catalogue, enclose 25 cents and we will mail you formula for waterproofing and coloring blocks. We will furnish enough of our waterproofing and coloring to waterproof and color 100 sq. ft. of surface for \$1.00. State color wanted when ordering. Be sure and tell us you saw it in Rock Products.

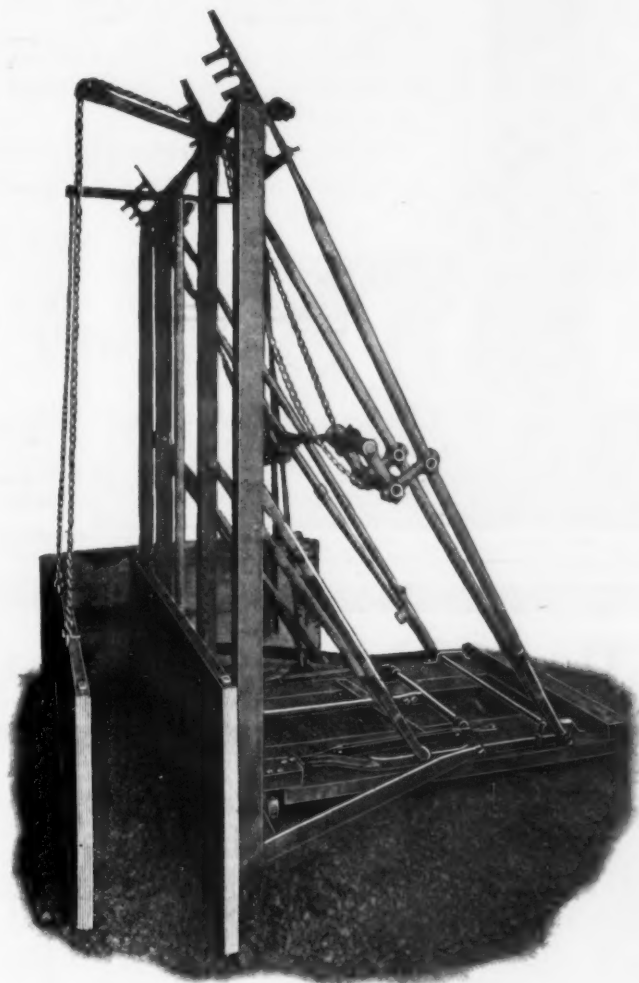


Cement Machinery Manufacturing Company,

Burlington, Iowa.

PROFIT WINNERS

Pauly's Concrete Wall Machine



PAULY'S CONCRETE WALL MACHINE.
READY TO BEGIN THE CONSTRUCTION OF A WALL.

For Monolithic and Reinforced Concrete Construction.

The only machine that has yet successfully done away with false work in concrete construction, and sold upon a positive WRITTEN GUARANTEE.

The latest improvement that has been put on this machine reduces the labor cost from 40 to 50 cents on every perch.

Immensely Successful Everywhere

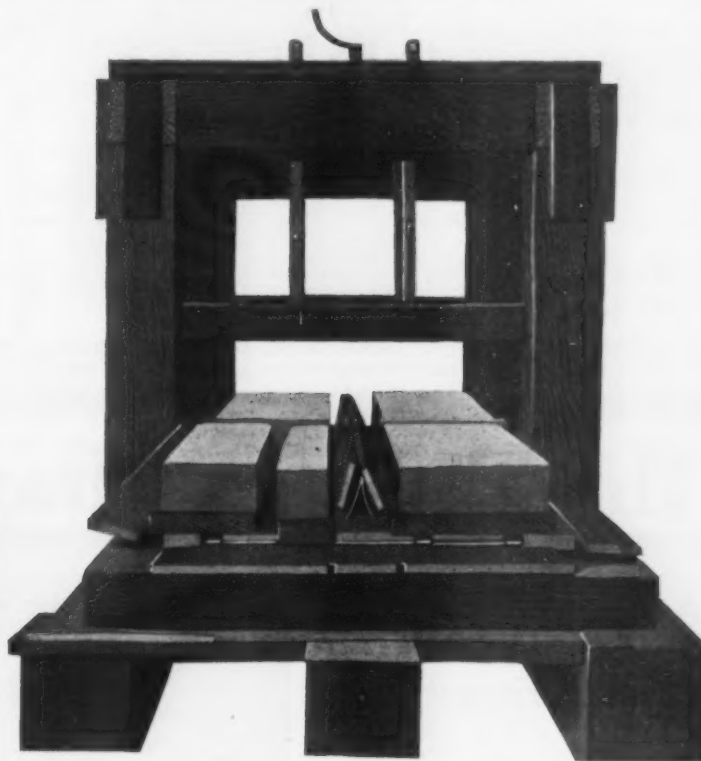
NOT A COMPLAINT WHERE INTELLIGENTLY USED.

THE LATEST AND BEST—A DISTINCT ADVANCE.

Pauly's Hollow Concrete Veneering Block Machine

FOR ACTUAL BROKEN ASHLAR CONSTRUCTION.

Complete plants equipped with hand or power press and outfit of molds for every size block required in the system. Drawings furnished for steaming chamber, giving details for slides and racks, or specially designed steaming cars and tracks supplied when desired. Successful, practical operation demonstrated every day with big profit.



PAULY'S HOLLOW VENEERING BLOCK MACHINE.

This is the Machine that has Long Been Needed to Make Perfect the Concrete Building Block Idea.

Can make blocks all one size 12 x 24 inches with mortar pointing space of $\frac{1}{8}$ -in. subtracted, or broken up into any fractional size desired. The bed of moulding press is so constructed that it is impossible to leave out the mortar space calculation.

A GREAT SAVING OF MATERIAL IS GUARANTEED.

The labor cost in properly equipped plant in daily operation has been determined at $1\frac{1}{2}$ cents per surface foot, when producing hollow concrete veneering tile.

Freezing Weather has no Effect in operating by the Pauly System.

HANDSOME ILLUSTRATED CATALOGUE SENT FREE. WRITE TO THE

Concrete Stone and Sand Company, Youngstown, Ohio.

Tell 'em you saw it in ROCK PRODUCTS.



Central Christian Church, Cor. 7th and Armstrong Ave., Kansas City, Kansas.

The MILAM Concrete Wall Building Device

The Milam device adopts the wet process and by so doing gets the full benefit of the strength of the cement and may be used with sand or any kind of gravel, crushed rock or cinders—makes hollow or solid walls from 9 to 20 inches wide with smooth, panel or stone pitched faces.

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This device is adapted to the use of reinforcing steel.

Easily operated—no experts required. No breakage or wastage.

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BOOKLET MAILED ON REQUEST

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Milam and James,

1017-19 North Front St.,
KANSAS CITY, KANSAS.



Residence of Ed. N. Dunning,
6th and Everett St., Kansas City, Kansas.

Your Plant Needs These Molds

**Are you Prepared
to Fill Orders for Fancy Blocks, Etc.?**

No block manufacturers' outfit is complete without molds for columns, balusters, capitals and porch posts.

OUR DESIGNS LEAD

We can supply you with anything in this line and will make special designs to order.

Write for our literature and compare our molds with others.



SIMPSON
CEMENT
MOLD
CO.,

351 Marshall
Avenue,
COLUMBUS, O.

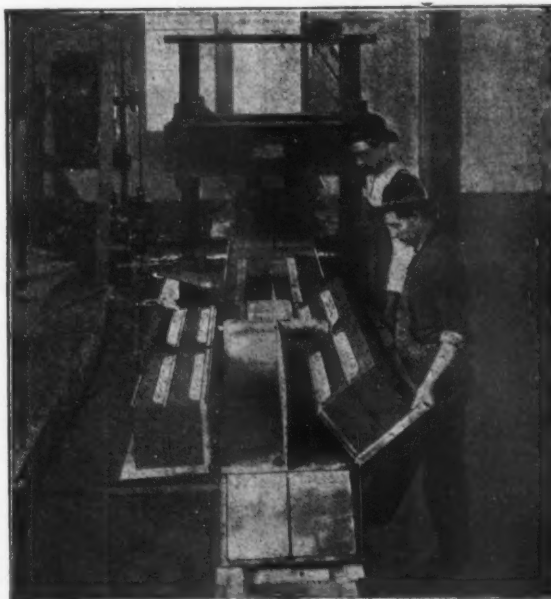
The Fisher Hydraulic Stone System

**A Success
A Money Maker
No Experiment**



This outfit consists of a genuine HYDRAULIC PRESS, and carefully constructed machinery, and has a SHIPPING WEIGHT OF 25,000 POUNDS.

The cut illustrates the Fisher machine operating and delivering eight angular blocks at one pressing, requiring less than one minute to pound them into shape, under a 200-ton pressure.



**The Only Machinery
Put Out for the Manu-
facture of Concrete Blocks**



This outfit is capable of PRODUCING 1,500 CUBIC FEET of material, formed into the shape desired, in ONE DAY'S WORK.

APPLY FOR FURTHER INFORMATION.



FISHER HYDRAULIC STONE AND MACHINERY CO.

Builder's Exchange Building

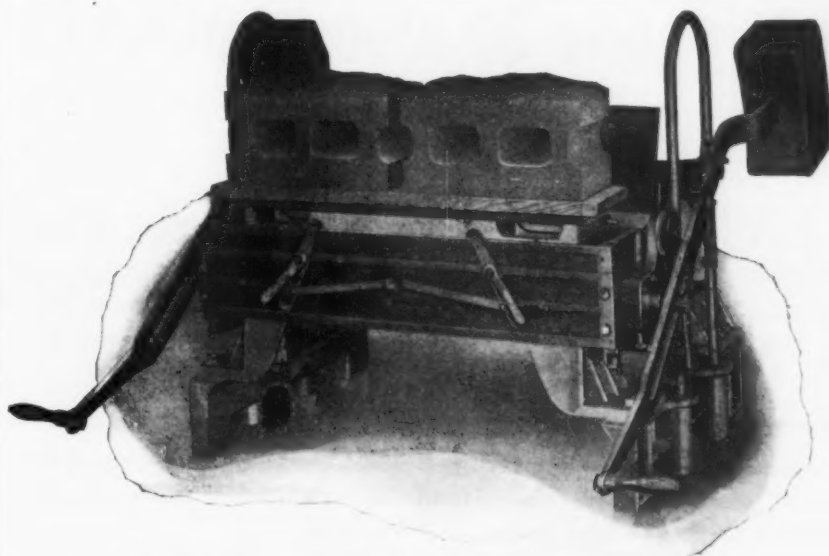
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BALTIMORE, MARYLAND

Tell 'em you saw it in ROCK PRODUCTS.

ATLAS CEMENT STONE MACHINE

Makes Stones 4 to 16 inches Wide and up to 36 inches Long.



Rear View of Atlas Cement Stone Machine—Showing Method of Delivering Stone.

Experience has demonstrated that a Tamp on the face machine produces the only perfect stone, acceptable alike to mechanic and builder. Here are seven great arguments to back the assertion:

- 1st. It makes a stone that is most impervious to moisture.
- 2nd. Since the face of the stone is made denser, it will not crumble but wear like granite.
- 3rd. It looks like natural stone because of the lighter color.
- 4th. In rock face stone, it makes sharper angles preventing the artificial appearance.
- 5th. It offers the cheapest proposition for coloring stones as the coloring matter is only required in the facing mixture.
- 6th. It offers a saving in cement and yet secures a better stone.
- 7th. It offers the great advantage of allowing the coarser mixture to be introduced much wetter than the facing mixture and thus secures perfect crystallization.

These seven points being made secure in our machine, every difficulty known to the industry is eliminated.

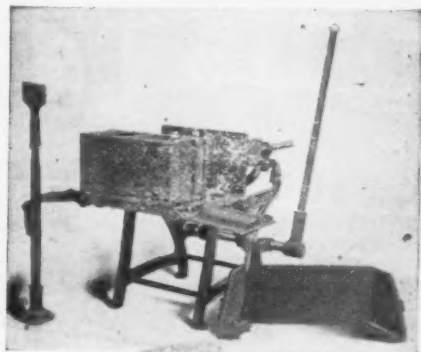
GUARANTEE We guarantee that a stone made on the ATLAS machine will stand a greater crushing strength than one made on any side plate type machine in existence. This is because a mixture wet enough to secure perfect crystallization can be used on our machine.

For Latest Developments in Concrete Machinery, write at once to

Atlas Cement Machinery Co., 617 Chamber of Commerce Building,
ROCHESTER, NEW YORK

YOU WANT THE BEST

Here are a few Convincing Reasons in favor of "Ideal"



SIMPLICITY: The "Ideal" has face plate in the bottom of the mold. Cores are moved horizontally by positive lever motion. No gears, no cogs, no wheels, no cranks, no chains, nothing to break or get out of order. You tamp on the face in the "Ideal" mold.

DURABILITY: The "Ideal" block machine is built of the best gray iron castings and polished cold rolled steel shaftings. In no part is strength sacrificed. All parts are perfectly machined and assembled. Will last a lifetime. Examine the picture.

ADAPTABILITY: The "Ideal" is a machine adaptable to any emergency or situation that may arise in the building line. The diversity of design is almost unlimited. The machine is interchangeable to four, eight, ten and twelve inch widths. It is adjustable to sixteen lengths.

RAPIDITY: Upon the rapidity of a block machine depends in great part the profit on a contract. Speed is imperative. So rapidly is this machine gotten ready for making and discharging blocks, that it simply becomes a matter of human endurance as to number of blocks turned out.

SEND FOR CATALOGUE "Z"

Ideal Concrete Machinery Co., Station 25
SOUTH BEND, IND.

"ON THE HIGH WAVE TO POPULARITY."

Tell 'em you saw it in ROCK PRODUCTS.

THE PERFECTION POWER BLOCK MACHINE For Making Hollow Concrete Blocks.

The Only Machine Making Hollow Blocks Under High Pressure.

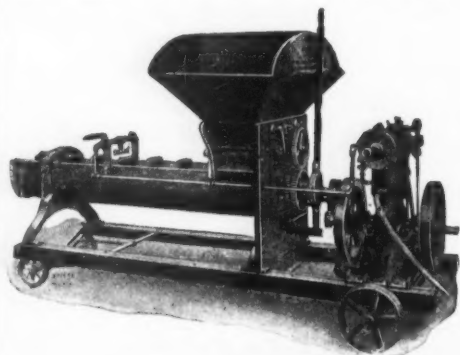
100 TON PRESSURE
ON EVERY BLOCK.

600 TO 1000 BLOCKS
PER DAY.

OUR MACHINE MADE THE SAND-LIME BLOCK ON EXHIBITION
AT THE SAND-LIME BRICK CONVENTION, DETROIT.
WRITE US FOR FULL PARTICULARS.

THE PERFECTION BLOCK MACHINE CO., Kasota Building, Minneapolis, Minn.

DO NOT BUY A MIXER Without seeing this machine. Shipped on approval



We manufacture a full line of Block Machine Mixers, equipped with gasoline or steam power, also Hand Mixer. Do not fail to get our prices before buying. Also see us at Milwaukee.

Eureka Machine Co.,
SUCCESSORS TO
Brady Cement Stone Machine Co., Ltd.
North Jackson Street, JACKSON, MICHIGAN

The Sensation in Cement Brick

The Peerless Cement Brick Machine is making brick for the new Minneapolis Armory.



All outside walls are made of cement sand brick, which are now being manufactured on the ground by the Peerless Cement Brick Machine.

**Practical
Durable
Economical
Profitable**

One man has made on this machine, over 3,000 perfect brick, in ten hours.

Prices right.

SEND FOR
CATALOGUE
and PRICE.



Patent No. 811,518

PEERLESS CEMENT BRICK MACHINE.
Giving you a view after delivering a load. At the top stands the steel facing plate, used only in facing end brick. At the right are tamping mallet, collar and float. On the pallet are ten complete bricks, one showing a rounded corner. Attachments for all forms of ornamental brick furnished extra, and easily adjusted.

Peerless Brick Machine Co.

100 "A" Lumber Exchange,

MINNEAPOLIS, MINNESOTA

Tell 'em you saw it in ROCK PRODUCTS.

Injunctions and Damages Against Infringers

—OF—

Pioneer Patents

Harmon S. Palmer's Patents Established by Recent
U. S. Court Decisions.

Extracts from FINAL DECREES Recently Entered

ONE at Milwaukee, Wisconsin, for the Eastern District of Wisconsin, against J. W. Sanderson (Chicago Adjustable). Referred to a Master for accounting and damages.

ONE at Brooklyn, N. Y., for the Eastern District of New York, against N. F. Palmer (Cast Stone Press). Referred to a Master for accounting and damages.

ONE at Danville, Ill., for the Eastern District of Illinois, against Clark Bros., for infringing our patents on a Normandin machine. Referred to a Master and perpetual injunction.

ONE at Owensboro, Ky., for the Western District of Kentucky, against users of a N. F. Palmer Cast Stone Press. Perpetual injunction, all costs with execution against them.

ONE at St. Louis for the Eastern District of Missouri, against two parties using a Normandin machine. Perpetual injunction, all costs and execution granted against defendants.

ONE in the United States Patent Office annulling patent to N. F. Palmer and granting same to Floyd Palmer, by Commissioner of Patents.

THE final outcome of our suit against the Winget Company in the Patent Office was the granting to us of patents on the stationary cores.

TWO other favorable decisions at Detroit, Michigan, has materially advanced our case against F. Cowham and N. S. Potter, of Jackson, Mich.

We have not lost a single case to this date

Extracts from Decisions.

That letters patent of the United States to Harmon S. Palmer for Hollow Concrete Building Block Machines * * * * are good and valid patents. That the Harmon S. Palmer Hollow Concrete Building Block Company are the *sole owners of said patents*.

That Harmon S. Palmer was the first, true, original and sole inventor of the inventions and improvements which are the subject matter of said patents.

That the said * * * * parties have infringed the said patents, and upon the exclusive rights of the said company; and that it be referred to a master to ascertain, state and report to the Court an accounting of the damages, loss and injury sustained by the Complainants by reason of such infringements.

That a perpetual injunction issue out of and under the seal of this court directed to said defendants * * * * his attorneys, clerks, agents, servants, workmen and all claiming under and through them, enjoining and restraining them and each of them from *making, using, or selling* directly or indirectly in any manner any building block machine containing, embodying or employing said inventions.

We have upwards of twenty other suits pending against makers and users of hollow block machines; many others will follow. We gave the world the hollow block industry which is based upon our patents; any machine which does not infringe some of our 159 claims is a subterfuge and not what it should be. Why purchase a lawsuit or a makeshift machine, when we can supply you with the very best and absolutely free from infringement.

FULL INFORMATION FREE.

Harmon S. Palmer Company,

1450 Girard St., N. W.

WASHINGTON, D. C.

Tell 'em you saw it in ROCK PRODUCTS.



MOVE THE MACHINE—NOT THE BLOCK

Saves labor of offbearing, loss by damage or breakage. Avoids necessity for heavy and expensive iron pallets. Reduces cost of plant and cost of operation. Everybody knows that concrete should not be disturbed after it is moulded or while it is setting, but this is the only machine with which it is possible.

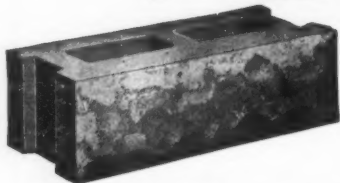
PETTYJOHN

Blocks cost 6 cents to make—Sell for 18 cents. One man can make 200 Blocks per day. Whole outfit costs \$125.00. Figure the profits.

GUARANTEED EVERY WAY—SENT ON TRIAL

THE PETTYJOHN COMPANY

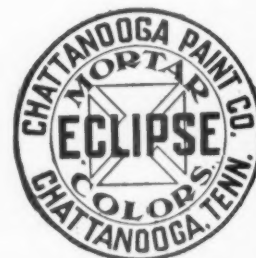
614 NORTH 9th STREET TERRE HAUTE, INDIANA




McKelvey Batch Mixer

Does not dump under drum and frame. Note the long discharge spout. Its object and advantages explained in new booklet, ask for it. Once used no other is good enough. All sizes.

McKELVEY CONCRETE MACHINERY CO., 171 La Salle St., Chicago.
1215 Filbert St., Phila. Pa.



Red, Brown,
Buff and Black
MORTAR
COLORS



The Strongest and Most Economical in the Market.

Our Metallic Paints and Mortar Colors are unsurpassed in strength, fineness, and body, durability, covering power and permanency of color. Write for samples and quotations.

CHATTANOOGA PAINT CO., CHATTANOOGA, TENNESSEE.

Medusa Water-Proof Compound

Solves the problem of making moisture-proof hollow concrete blocks. Does away with furring and lathing; plastering done direct on the blocks. Many leading block manufacturers using it in their entire output.

Indispensable also for cistern and reservoir linings and all water-proof cement work.

Write for pamphlet giving comparative long-time water absorption tests and testimonials.

Sandusky Portland Cement Co.,
SANDUSKY, OHIO

CONCRETE BLOCK HOUSES



MY BOOK OF CONCRETE BLOCK HOUSE DESIGNS NOW READY FOR DELIVERY.

It contains handsome half-tone illustrations of Exteriors, Floor Plans, Description, Estimate cost, etc., of 27 artistic modern homes.

Invaluable for home builders and concrete block manufacturers.

Every plan Original, Artistic and Practical. Price of book \$1.00 postpaid.

I also have "Portfolio of 52 Modern and Artistic Homes" in frame, brick and plaster construction. Price of Portfolio \$1.00 postpaid.

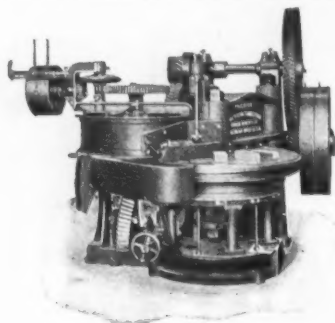
Complete Working Drawings, Details and Specifications of any design will be furnished at the very moderate cost given in said books.

Special Plans Prepared.

HENRY H. WITTEKIND, Licensed Architect

85 Dearborn Street,

CHICAGO, ILLINOIS



Komnick Improved Rotary Press.

ONE of these presses made 22,000 brick each consecutive day, of ten hours, for more than six months without a breakdown. Another press made 4,235,000 the first ten months, ten hours per day run; it is now making 35,000 per day, night and day run.

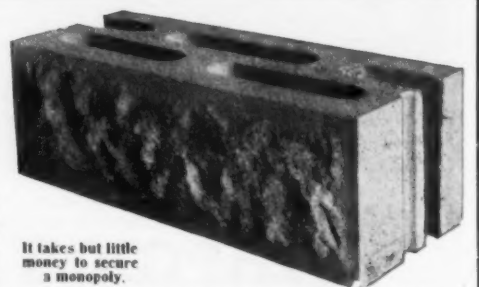
We were the first to introduce the Komnick or Hydrated lime system in the United States; also to build and install the complete plant and guarantee results, and are prepared to furnish complete or partial installation.

The American Sandstone Brick Machinery Company,
SAGINAW, W. S. MICH.

Remember The Miracles

and their famous
Double Staggered Air
Space Block.

It offers the greatest of America's golden opportunities. The Miracle Cement Machinery is the simplest, fastest, most complete and most durable on the market.



It takes but little
money to secure
a monopoly.

You can profit by our U. S. Patents and by our extensive magazine and publicity advertising if you will. Full information in Catalogue O.

Miracle Pressed Stone Co. Minneapolis, Minn.

EASTERN OFFICE, No. 1 PARK ROW, NEW YORK CITY.

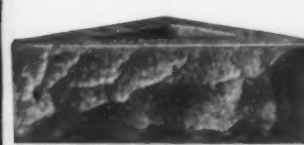
Tell 'em you saw it in ROCK PRODUCTS.



¶ If you propose to go into the Concrete Block Business buy an outfit that makes good, marketable blocks at a small cost. Why buy an expensive, cumbersome machine that makes blocks of questionable quality? ¶ Blocks made by the MANDT HAND TAMPING OUTFIT produce an absolutely DRY WALL with a POSITIVE CONTINUOUS AIR SPACE. In addition to this, the blocks themselves are hollow, making a TRIPLE AIR SPACE. ¶ This outfit will make blocks for every possible style of structure from the Residence to the heavy Factory Building, from a Porch Column to the Cornice and Sill and from the Silo to the Lofty Chimney. It will also make every style of face; the Smooth, the Rock, the Chiseled, the Paneled and the Corrugated. It makes all sizes even to the fraction of an inch. ¶ When you realize that this outfit COSTS about ONE-FOURTH of what others do, you must appreciate the importance of receiving one of our NEW ILLUSTRATED CATALOGUES that tells you all about "How good blocks can be made cheaply;" "How an absolute Hollow wall can be constructed of Concrete Blocks," and how ONE BLOCK BINDS THREE. ¶ We know we can convince you of the EXCELLENCE and SUPERIORITY of our system. We also manufacture molds for ornamental trimmings such as CORNICES, SPINDLES, BALLS, COLUMNS and CAPS. We handle the best BLOCK CONVEYOR on the market. We know that you will be interested in our MIXER. We have a complete line of cement SIDEWALK TOOLS. Our catalogue will tell you about all of these. Simply send us your name on a postal card, receive this catalogue and learn the BEST WAY to make BLOCKS and MONEY.

¶ BOTH THE OPERATION OF THE MACHINERY AND THE MATERIAL PRODUCED IS COVERED BY A POSITIVE WRITTEN GUARANTEE.

MANDT-POWELL
CONCRETE MACHINERY AND
STOUGHTON WIS. FOUNDRY CO.

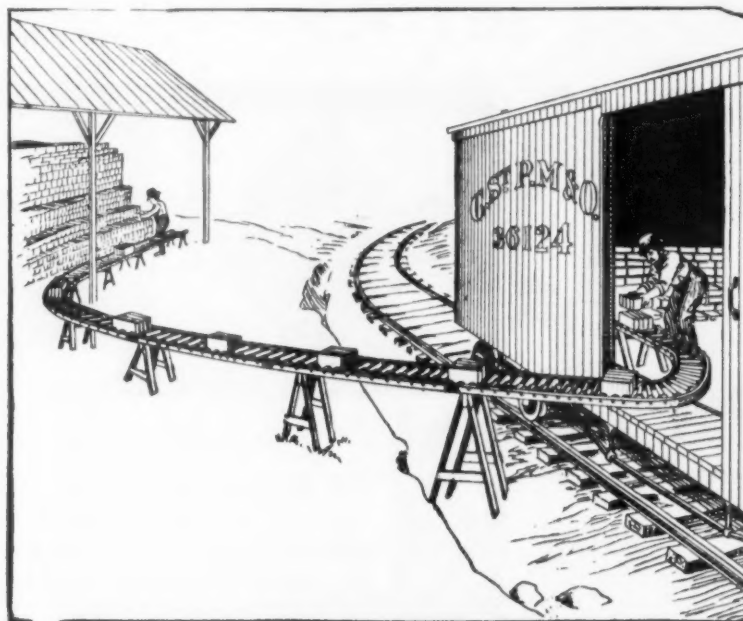


GRAVITY

THE ONLY ABSOLUTE-
LY FREE UNLIMITED
UNIFORM POWER!

The Mathews Gravity Carrier Harnesses this wonderful force and cuts your bills in two.

THE SIMPLEST—MOST PRACTICAL—LEAST EXPENSIVE
METHOD OF LOADING OR CONVEYING



THE NEW WAY: COSTS \$3.50 TO LOAD THIS CAR.

WRITE
US
TO-DAY

BUILDING BLOCKS, TILING, SEWER PIPES
ALL KINDS of BRICK, CEMENT IN SACKS

A Boon
to Cement
Users.

Will convey material down grade, on a level, up an incline and around all kind of curves.

Mathews Gravity Carrier Co., Cor. Hampden and Wabash Avenues, **St. Paul, Minn.**

MENTION THAT YOU SAW OUR "AD." IN ROCK PRODUCTS.

POWER AND MINING MACHINERY COMPANY

Designers and Builders of

Cement-Making Machinery

for every stage in cement making by both the
Wet and Dry process.

**Rock Breakers, Crushers, Dryers, Kilns, Ball Mills,
Tube Mills, Elevators and Conveyors.**

Some of the most eminently successful plants in operation to-day were designed by our engineers.

Write for Specifications and Estimates.

<i>Sales Offices</i>	Works and General Office Cudahy, Wis. Suburb of Milwaukee	<i>Sales Offices</i>
ATLANTA, BOSTON, CHICAGO, COLUMBUS,		DENVER, NEW YORK, SALT LAKE, ST. LOUIS.

Tell 'em you saw it in ROCK PRODUCTS.

Garry's Genuine Charcoal Iron Roofing WILL NOT RUST

If properly cared for. Roofs put on forty and fifty years ago are now good.

Manufactured Exclusively by
THE GARRY IRON AND STEEL CO.
CLEVELAND, OHIO.

W. C. WULFF & CO.

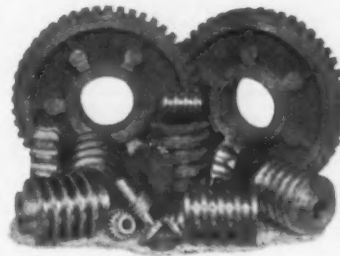
(Incorporated.)

SHEET-METAL and HEATING CONTRACTORS

—MANUFACTURERS OF—

**GALVANIZED IRON AUTOMATIC FIRE-PROOF WINDOWS, CORNICES,
SKYLIGHTS, TANKS, ETC., SLATE, TILE, TIN AND IRON ROOFING,
SHEET-METAL CEILINGS, —WARM AIR FURNACES.**

Office and Factory, 601, 603, 605 E. Jefferson St. LOUISVILLE, KY.



Certainly Not—

Would you desire to ride in a horse car after using a trolley? Heavens, no! The same superiority applies to a Nuttall Cut or Planed Gear over the cast tooth type.

R. D. Nuttall Company, Pittsburg, Pa.
GEARS - PINIONS - TROLLEYS

"Rock Products" Advertisers tell us they receive inquiries from all parts of the Globe.

SPECIAL MACHINERY AND FORMULAS

FOR THE MANUFACTURE OF

**WOOD FIBER PLASTER, FIRE PROOF-
ING AND KINDRED PRODUCTS.**

The Ohio Fiber Machinery Co.

J. W. VOGLESONG,
GENERAL MANAGER.

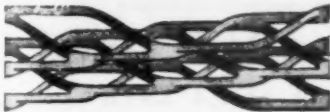
Elyria, Ohio.

We furnish the latest improved FIBER MACHINE, (fully patented), also FORMULAS, on a reasonable proposition. The strongest companies and oldest manufacturers are operating under my contracts. WRITE FOR TERRITORY.

STRONG, DURABLE. NO PLASTER WASTED.

1/2 Actual Size.

1/2 Actual Size.



TRUSS METAL LATH. (Pat.)

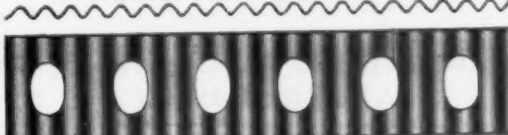


CLINCHER LATH. (Pat.)

THE AMERICAN ROLLING MILL CO., Middletown, Ohio.

It Holds with "A Grip of Steel."

Use Truss Lath for Solid Partitions. It Requires No Stiffening Rods.



BULL DOG WALL TIE. (Pat.)

Use Clincher Lath for Ceilings and Hollow Partitions. The Best for Pat. Plaster.



Get right, use
"Leviathan"

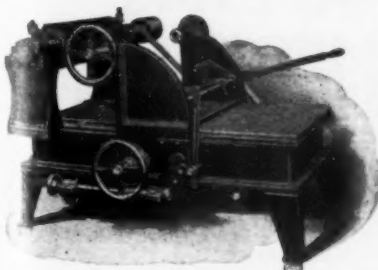
The reason why we use "LEVIATHAN" Belting in preference to all others is that we find it in efficiency and durability at least 50 per cent. in excess of the best special faced rubber belting obtainable.

(Signed) LAKE COUNTY GRAVEL CO.
By W. T. EATON, Treas.

MAIN BELTING COMPANY, Manufacturers.

CHICAGO, 55-57 Market St., NEW YORK, 309 Broadway,
PHILADELPHIA, 1215-1245 Carpenter St.,
BUFFALO, 40 Pearl Street, BOSTON, 140 Pearl Street.

The Leonard Wood Fiber Machine



ELYRIA MACHINE WORKS, Elyria, Ohio

Gentlemen:—We are very much pleased with your machine, as is evidenced by the fact that we are ordering the second one from you. This last machine will take the place of a machine, which we have found takes more power to run, with about one-third the output of your machine.

Has an Automatic, Proportional, Increasing Feed, which keeps grade of fiber uniform from start to finish, and holds machine to highest possible rate of production for the grade of fiber and number of saws. Does not begin with fiber and end with dust, nor fall off in rate of production on each log, from 40 to 80 per cent as do the ordinary non-increasing feed machines. Works logs up to 24x24 inches. No royalty string attached to sale. Pay no attention to misrepresentations of our competitors but write for descriptive circular and terms to

**The ELYRIA
MACHINE WORKS,
Elyria, Ohio**

Yours truly,
S. A. WALKER, Vice Pres.
Acme Cement Plaster Co., St. Louis, Mo

HIGHEST AWARD
ST. LOUIS EXPOSITION
1904.

RED, BROWN,
BUFF, PURPLE,
BLACK.

**The RICKETSON MINERAL COLORS
COLOR
QUESTION SETTLED**

FOR QUALITY AND STRENGTH

WE LEAD.

RICKETSON MINERAL PAINT WORKS, Milwaukee, Wis.

Tell 'em you saw it in ROCK PRODUCTS.

KING'S WINDSOR CEMENT FOR PLASTERING WALLS AND CEILINGS

Buffalo Branch: CHAS. C. CALKINS, Manager
322 W. Genesee Street

Elastic in its nature, can be applied with 25 per cent. less labor and has 12½ per cent. more covering capacity than any other similar material.

J. B. KING & CO., No. 1 Broadway, New York

WHEELING WALL PLASTER CO.,

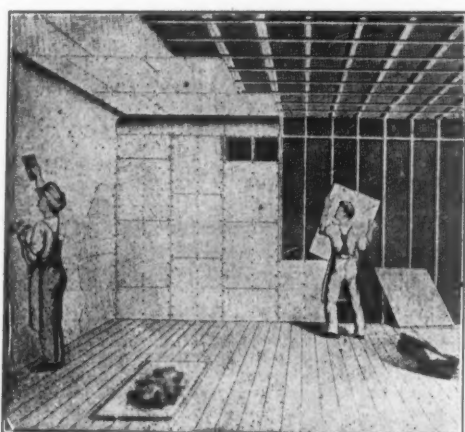
MANUFACTURERS AND JOBBERS

Wheeling Plaster and Builders Supplies.

WHEELING, - - WEST VIRGINIA.



DRYERS
OF EVERY TYPE
CONSTRUCTED FOR ALL PURPOSES
BEFORE PLACING YOUR ORDER CONSULT
UNITED STATES DRYING ENGINEERING CO
66-70 BEAVER ST., NEW YORK, U.S.A.



Sackett Plaster Board

A material used in the construction of Walls and Ceilings in place of wood and metal lath. Made in Sheets 32" x 36", ¼" thick. Nailed directly to studding and finished with hard plaster.

Sackett Plaster Board is light, economical and durable. Will not warp, buckle or shrink. Is warmer than lath, consequently saves fuel. Is a fire retardant recognized by fire underwriters.

Walls and Ceilings constructed with these boards cannot fall.

GRAND RAPIDS PLASTER CO.

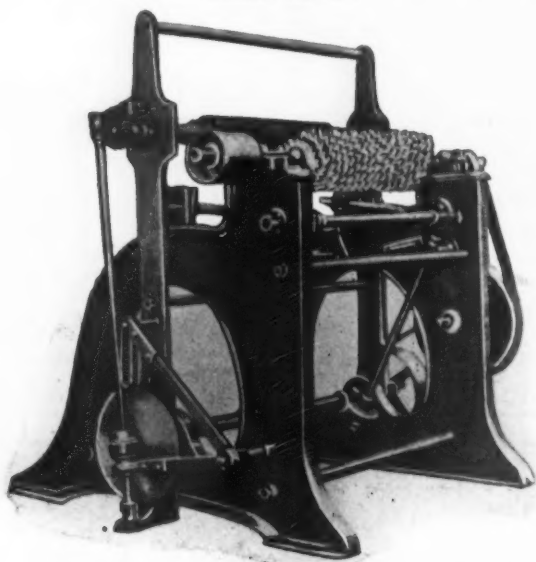
Manufacturers of Wall Plasters,
Calcined Plasters and other Gypsum Products.

WESTERN SALES AGENT.

GRAND RAPIDS, MICH.

"The Cochran" Automatic Wood Fibre Machine

(PATENTS PENDING)



There is positively nothing cheap or shoddy about this machine, either in workmanship or material. There are no Sprocket Wheels or Chains, no Cone Pulleys or Cog Wheels to break, get out of order and cause trouble. All the power is transmitted with bevel gears adjusted to "run like a watch."

We call special attention to the "speed increasing mechanism" and automatic action of our machine. When the log is reduced to the size of 2 inches the carriage is automatically released, and swings back to place without being touched by the operator, while at the same time the log stops revolving, without interfering with the other parts of the machine.

The log when finished is revolving six times as fast as at the start and all done automatically and continuously.

Write for catalogue and prices to

Concrete Engineering and Equipment Co.

Butler, Pa.

Greensboro, N. C.

Tell 'em you saw it in ROCK PRODUCTS.

METAL LATH

Bostwick Expanded Metal

BOSTWICK FIRE-PROOF STEEL LATH

For Plaster Walls and Ceilings, Concrete Reinforcement. Our Flat Lath the Stiffest and Most Economical Metal Lath on the Market. WRITE FOR SAMPLES AND PRICES.

BOSTWICK STEEL LATH CO.,

NILES, OHIO.

WOOD PLASTER

The Coming Wall Covering

WE ARE THE ORIGINATORS.

After several years of experimental work we have reached SUCCESS and our goods are recognized as of the highest quality.

We wish to establish our trade in every important market, and will give local capital and local talent an opportunity to go in with us in the erection and operation of

MIXING PLANTS

Using our IMPROVED MACHINERY and FORMULAS. The management of the local plant to remain with LOCAL INTERESTS.

Write us for full information.

The ELYRIA WOOD PLASTER CO., Elyria, Ohio.

Expanded Steel for Reinforcement of Concrete

CHEAPER THAN OTHER FORMS OF CONCRETE CONSTRUCTION. LIGHTER - MORE DURABLE - MORE EASILY PUT IN PLACE

SUITABLE FOR

Foundations, Piers, Sewers,
Bridges, Subways,
Reservoirs, Flumes, Tunnels, Vaults,
Conduits, Tanks, Cisterns,
Septic Tanks,
Storage Bins, Dry Kilns,
Coal Bunkers,

Dry Docks, Power Plants,
Warehouses,
Naval Storehouse, Factories,
Sidewalks, Deck Houses,
Floors,
Roofs, Domes, Etc.



2½ in. Mesh. No. 10 Gauge.
Double Strand. Full size detail.
Size 5½x2½ in. inside.
Weight 1 lb. per sq. ft.
Sectional area .323.
Sheets 8 ft. long up to 6 ft. wide.

KNO=BURN
(TRADE MARK.)
STEEL PLASTERING LATH
Strongest, Safest,
Fireproof.

Expanded Steel for Window and
Skylight Guards, Etc. Dandy In-
destructible Waste Basket, Fencing
and Gates, Office and Elevator En-
closures, Tree Boxes, Railings, Ex-
panded Steel Specialties of all kinds.

NORTHWESTERN EXPANDED METAL CO., Old Colony Building CHICAGO

OLDEST.

STRONGEST.

BEST.

STUCCO RETARDER

Our new Air Separation Plant gives us some
of the finest ground and most uniform
Retarder made, with strength equal to any.
Let us submit sample, and prove it.

Chemical Stucco Retarder Co.

Incorporated 1895.
WEBSTER CITY, IOWA

H. L. Graf, Pres. E. T. Slider, Vice-Pres. & Gen'l Mgr. Osborne G. Reilly, Sec. & Treas.

New Albany Wall Plaster Co.

(Incorporated.)

MANUFACTURERS OF

Star and Wood Fiber Wall Plaster.

NEW ALBANY, IND.

We wish to announce to the trade that we are now running and at the present time,
are in position to fill all orders promptly. Those who have used our goods claim it is the
finest they ever had.

If you have not tried it, we are sure it would be to your interest to do so.
Prices always right and your orders solicited.

NEW ALBANY WALL PLASTER CO.,

Cumberland Phone 408.
Home Phone 137.

NEW ALBANY, IND.

PATENT SOAPSTONE FINISH

PLAIN AND IN COLORS FOR WALLS AND CEILINGS.

Patent Soapstone Mortar.

Prepared in any Color for Laying Pressed and Enameled Brick,
Stone Fronts, Terra Cotta, Chimneys, Fire Places, Etc.

The Dodge Blackboard Material or Artificial Slate.

The Potter Blackboard Material.

SOAPSTONE MICA. CONCRETE DRESSING.
CRUSHED, GROUND AND BOLTED SOAPSTONE.

AMERICAN SOAPSTONE FINISH CO.

P. DODGE, Proprietor.

CHESTER DEPOT, VT.

See 'em you saw 'em in ROCK PRODUCTS.

THAT'S IT

The Brand that's
in Demand.



The New
Independent Mill.

Cement Plaster.

MANUFACTURED BY

The Plymouth Gypsum Co. FORT DODGE, IOWA.

STUCCO RETARDER

We guarantee our retarder as strong as any made and to be absolutely uniform in strength.



VIEW DURING CONSTRUCTION.

All shipments made from large stock of properly aged material. Insuring uniformity.

Information concerning plaster formulas furnished.

Freight prepaid on sample tons for trial order. If the retarder does not prove as economical as any made, we take the material off of your hands and make no charge for retarder used in making your tests.

Does this look good to you? Does it look as if we were afraid of the results of your tests?

THE OHIO RETARDER COMPANY, PORT CLINTON, OHIO.

LION FUZES AND BLASTING MACHINES

ARE THE BEST



No. 1, Capacity, 8 Holes
No. 3, Capacity, 25 Holes
No. 4, Capacity, 50 Holes

If you do not fire your blasts by electricity, you should send for the booklet

"FIRING BLASTS BY ELECTRICITY"

Which tells all about this method. If you are already using fuzes, you should have the book anyhow, as it contains many valuable hints. Sent free.

**The AETNA
POWDER
COMPANY**

143 Dearborn Street, CHICAGO



IMPORTANT CHANGE

Louisville, Henderson & St. Louis Railway

"THE HENDERSON ROUTE"

On and after April 1, 1906, all trains of this Company will arrive at, and depart from 10th Street Station, Tenth and Broadway, instead from Seventh Street Depot (formerly Union Depot), Louisville, Ky.

J. L. IRWIN, G. P. A.

LOUISVILLE, KY.

"Big Four Route"

(New York Central Lines.)
BEST LINE TO

Indianapolis, Peoria, Chicago, Toledo, Detroit,
Cleveland, Buffalo, New York, Boston

AND ALL POINTS EAST.

Information cheerfully furnished on application at City Ticket Office, "Big Four Route," No. 259 4th Ave., or write to

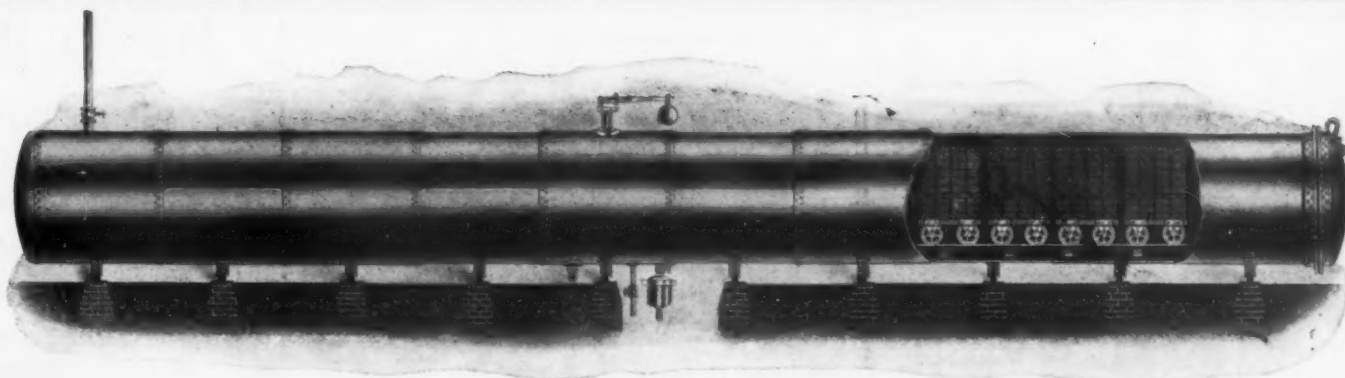
S. J. GATES,

General Agent Passenger Department.

H. J. RHEIN,

General Passenger Agent, Cincinnati, O.

Tell 'em you saw it in ROCK PRODUCTS



Sand-Lime Brick Machinery

Our Sand-Lime Brick Machinery is at least a little better than any other. We have testimonials to show it. We build it all in our own factory and are sure of its quality. We are the only firm doing this. We will design and equip your entire plant or will sell you parts of your equipment. Our catalog describing and illustrating our full line will be sent upon request.

We also build a full line of machinery and appliances for making Clay Products, Cement and Pottery, Dryers and Dryer Apparatus.

Everything we sell we make. We therefore know its quality to be right.

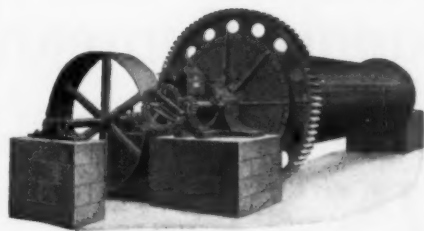
The American Clay Machinery Co.,
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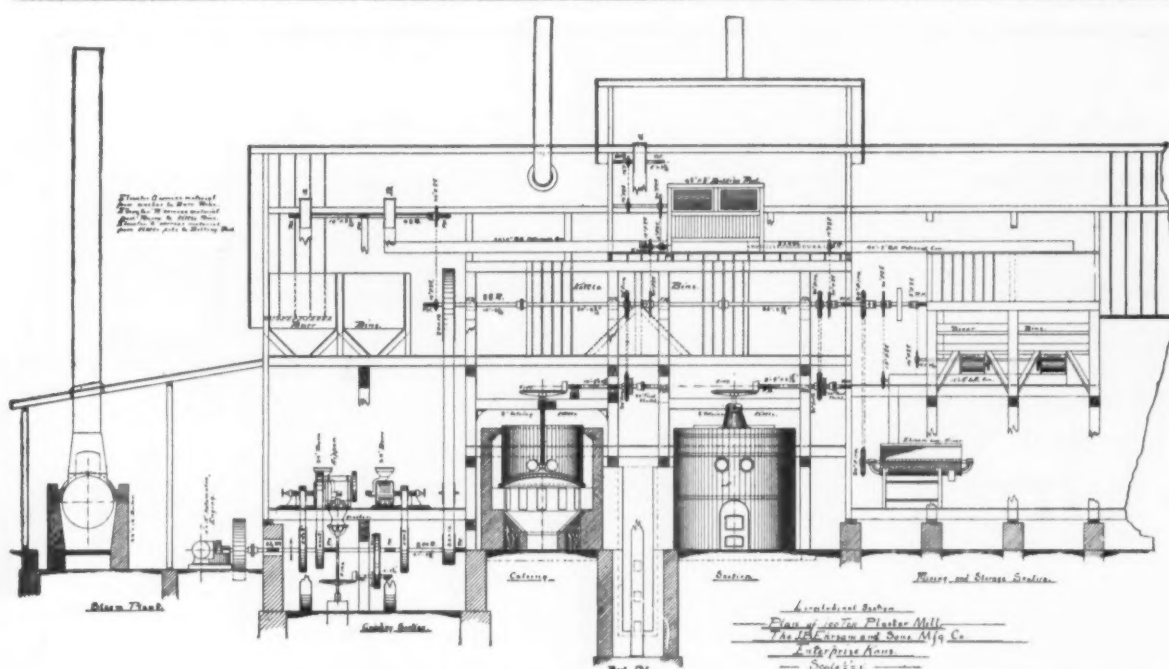
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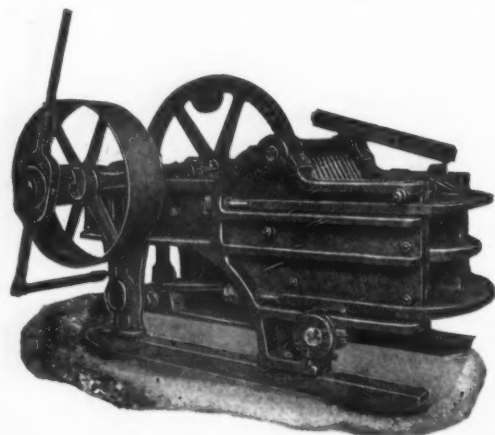
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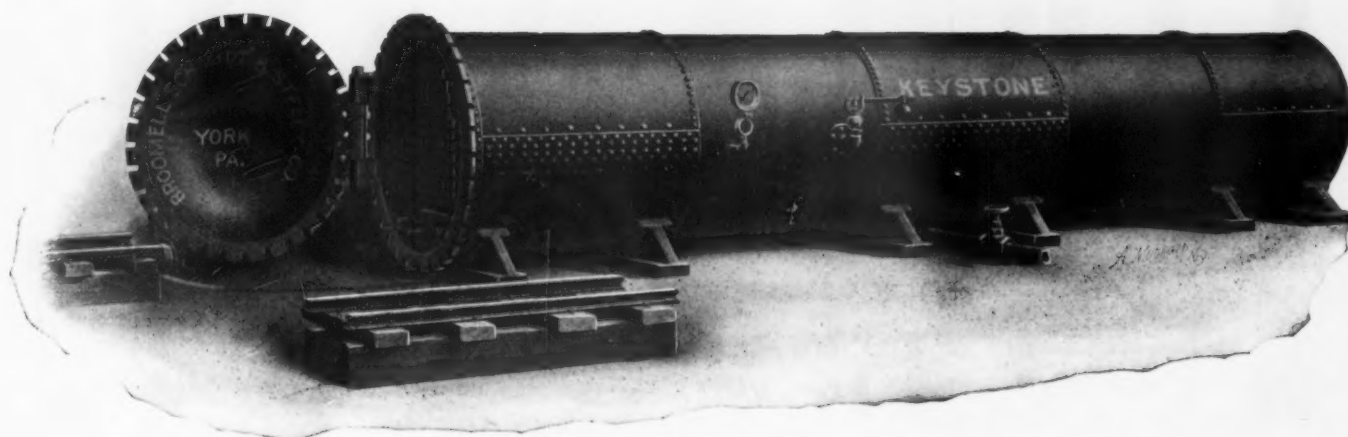
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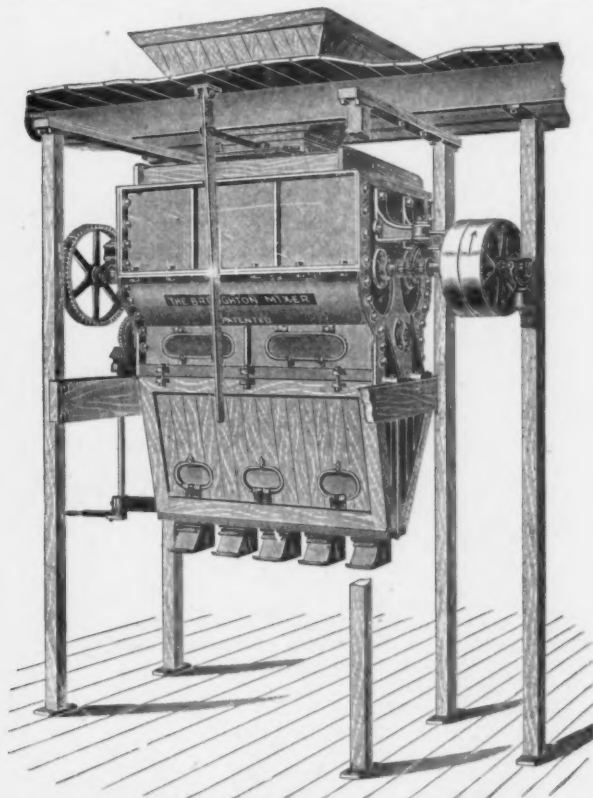
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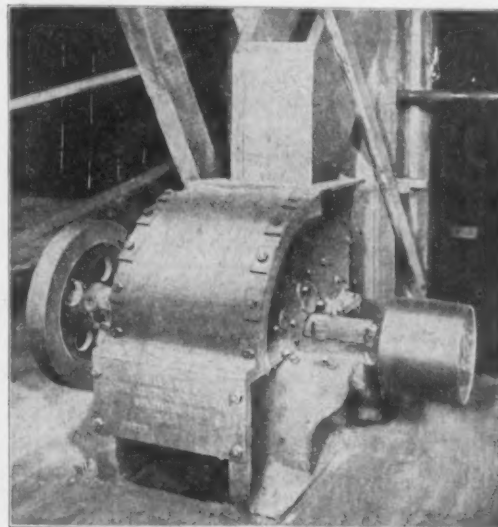
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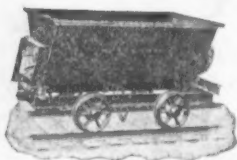
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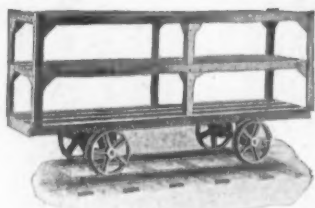
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